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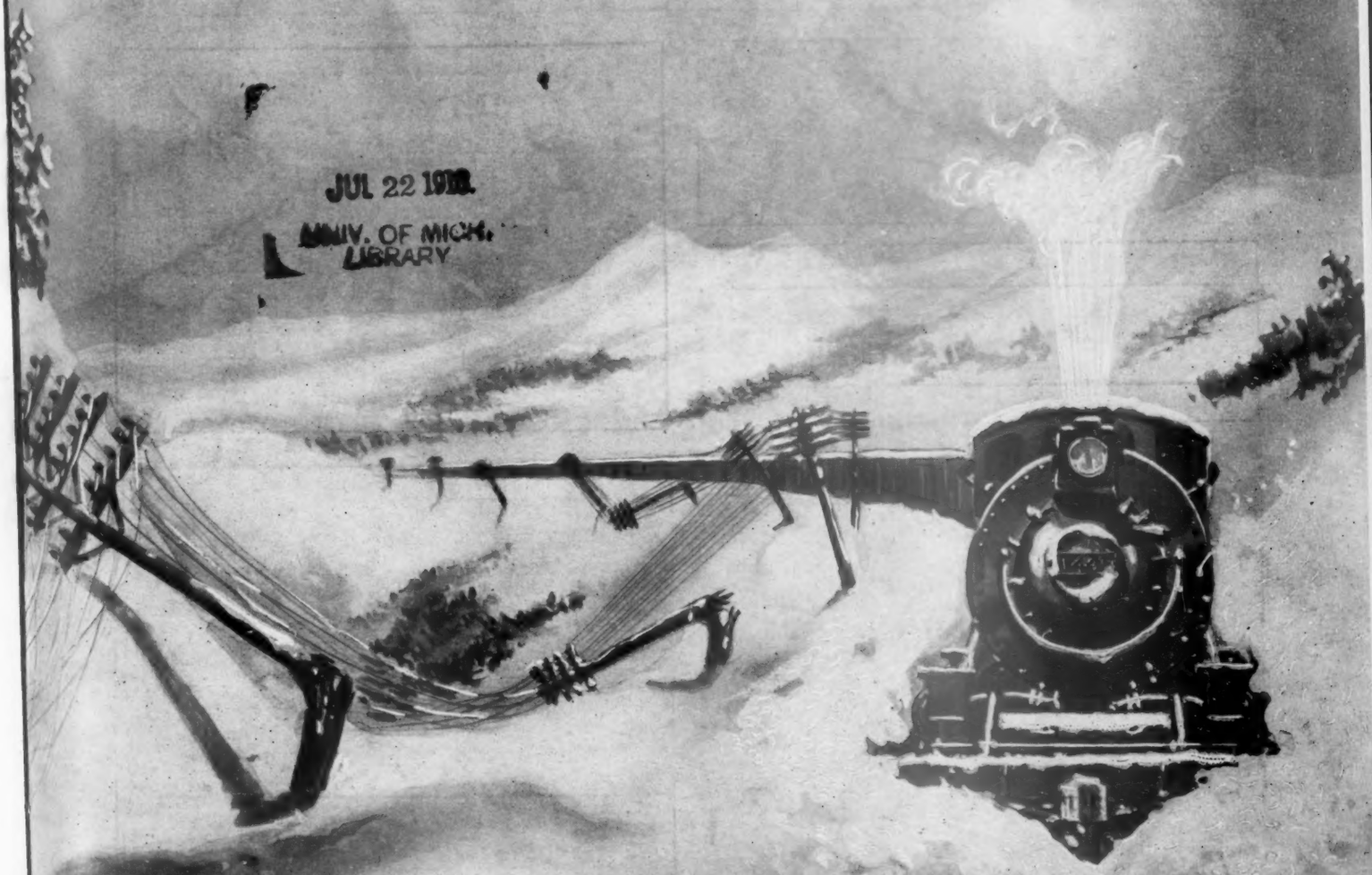

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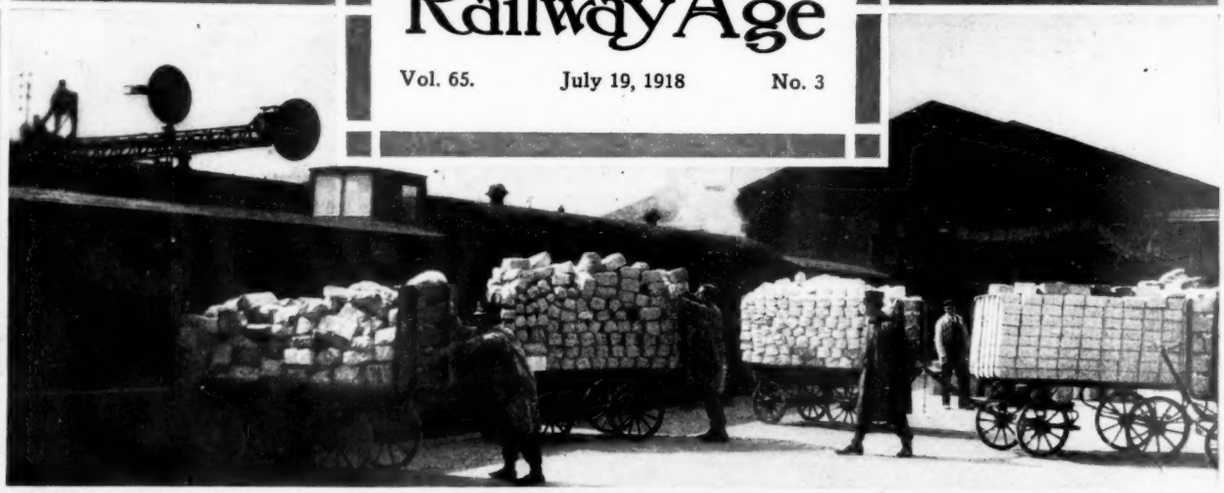

Packages for Prisoners of War in Germany on Their Way Through Geneva.

Contents

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WE GUARANTEE, that of this issue 8,000 copies were printed; that of these 8,000 copies 6,662 were mailed to regular paid subscribers, 175 were provided for counter and news companies' sales, 315 were mailed to advertisers, 432 were mailed to exchanges and correspondents, and 416 were provided for new subscriptions, samples, copies lost in the mail and office use; that the total copies printed this year to date were 268,842, an average of 9,270 copies a week.

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EDITORIAL

Railway Age

So much has been said and written about the necessity for fuel economy and how coal can be saved on the locomotives that it is to be feared the expression may have lost some of its force. Not a few railroad officers and employees have got to be big enough radically to change their view-points if the best results are to be obtained. Illustrating this, one fuel expert asked the following question: "What results would be obtained if the colonel of a regiment were, in an apologetic way, to say to his men that the enemy with whom they were to engage in battle was very much better equipped in every way and that, while the enemy would probably win the fight, it would, of course, be necessary to battle against them." The fight would be lost before it was begun because his men would have lost the one important qualification for really winning the fight—their morale. Too many men are defeated before they tackle a proposition because of their attitude of mind. What chance is there on many roads, for instance, of running one locomotive through over two or three divisions, simply stopping to clean the fires and change crews at division points; and yet it has been demonstrated where this has been given a fair trial that it not only results in marked fuel economy but makes it possible to secure a much larger service from each locomotive, thus reducing the number of locomotives required for handling a given amount of traffic. This is only one of a number of things that will never be made to yield results until those in charge are willing to tackle the proposition with an open mind and not kill the project before it is started. No matter how good a device or method may be it needs a friendly interest to make it a success. Indifference has damned many a good cause.

Standing in the Way of Fuel Economy

If anyone is in doubt as to why there is difficulty in securing and keeping an ample number of capable foremen in railroad shops and roundhouses, the reason is very clearly indicated in Appendix IV of the Railroad Wage Commission report, in which are shown the average monthly earnings of railroad workers for 1915, 1916 and 1917 by occupational classes. In 1915 the average monthly earnings of general foremen throughout the United States was $127.77. This increased to $131.13 in 1916 and for 1917 had gone up to $137.73. The average monthly earnings of gang and other foremen were $97.24, $102.68 and $112.76, respectively, during these three years. Machinists averaged $85.87 per month in 1915, $100.42 in 1916, and $116.35 in 1917; while boilermakers averaged $89.69 in 1915, $102.46 in 1916, and $118.85 in 1917. The disparity between the earnings of the foremen and the men in the ranks, while clearly indicated by these figures, is really much wider than they show, as they are averages which are considerably exceeded on a piece work basis by the brighter and more skilled men, and by mechanics in roundhouses, where overtime is prevalent. Furthermore, under the sliding scale of percentage increases in pay recommended by the Wage Commission and put into effect by General Order No. 27 of the director general of railroads, an already bad situation is made worse, because the base rate of the mechanic in most cases is less than that of the foreman, although, due to overtime or extra piece work earnings, his actual earnings are greater. The mechanic is thus entitled to an award higher not only in percentage, but in actual amount, than are the lower grades of foremen. Under such conditions, what inducement is there for the mechanic of exceptional skill or ability to give up comfortable working conditions and assume the heavy load of responsibility and steady grind of long hours which fall to the lot of the foreman?

Why Are Good Foremen Hard to Keep?

The iron and steel mills of this country are greatly in need of scrap iron, the demand for this material far exceeding the supply. Railroads have always been one of the largest sources of supply for scrap iron and steel. The prices now being paid for such materials are sufficiently high to warrant special efforts in the collection of scrap; but, aside from this, the railroads should do their best to make up the deficiency for patriotic reasons. It is said that if all of the iron and steel scrap in the country was marketed, there would be no shortage of steel, but this can only be accomplished by very great effort. The railroads cannot only be of great help in collecting and marketing their own scrap but they can do much by urging others with whom they come in contact to do the same and by helping to promote and encourage "Sell Your Scrap" campaigns in the different communities which they serve.

Scrap Iron at a Premium

The assumption of control of the railways by the government has brought about a number of interesting situations, not the least confusing of which is the position in which the valuation engineer and his staff find themselves. Until this year the valuation department has maintained the dual function of furnishing the government with such information and maps as it required and of gathering such data as may be necessary to support the claims of the roads in those points in which agreement has not been reached with the federal forces. Immediately on the taking over of the operation of the roads the suggestion was made in certain quarters that the valuation forces of the railways should be consolidated with those of the government and the findings of the latter forces made binding on the roads inasmuch as the government, through its guarantee of railway earnings, might be considered as paying the expenses of both forces. However, this position ignores the fact that the government has not purchased but only leased the properties of the roads for the period of the war and that the equity of owners in the properties remains unchanged. Sounder judgment has prevailed and the work has proceeded without material change from existing practices up to the present time. With the reorganization of the staffs of the roads to bring them more directly into the employ of the government railway men engaged in valuation work are now confronted with a joint responsibility to their present employer (the government) and to their former employers and the owners of their properties (the corporations). The director of the division of valuation, who is an employee of

Federal Control and Valuation Work

the Interstate Commerce Commission and is also a member of the official family of the director general of railroads, has recently issued a circular stating that whatever expenses may be necessarily incurred by the carrier in making the valuation may be charged to operating expenses, but that expenses incurred to test the accuracy of the valuation or to contest it before the commission or the courts must be borne by the corporation. These instructions are necessarily more or less general in character and leave considerable opportunity for the exercise of discretion.

The problem of the government is to arrive at a fair valuation. It is, therefore, encouraging to note the increasing desire on its part to arrive at an agreement with the carriers regarding as many figures of quantities and unit prices as possible, in this way reducing to the minimum the number of points to be contested later. To this end the engineering estimates of the division of valuation are being submitted informally to the roads for criticism and checking in some cases, in this way affording an opportunity for the detection and elimination of errors and inaccuracies before the tentative valuations are completed and submitted to the Interstate Commerce Commission. Obviously such a procedure is very much to be desired by all concerned, and under it much of the data which the roads are securing to substantiate their claims can be and are being submitted to the division of valuation for such use as may be made of them in verifying the valuations. For this reason it is to be expected that the recent order of the director of the division of valuation relative to the distribution of expenses for the collection of these data between the operating and the corporate accounts will be interpreted liberally since the information is being placed at the disposal of the Commission and is being used by it in arriving at the correct figures.

Is Railway Credit a Non-Essential?

IF PRESIDENT WILSON or Director General McAdoo had personally written the tentative draft of the proposed contract between the government and the railroad companies whose properties have been taken under federal control, a question might pertinently be asked whether they had their fingers crossed when, during the early days of federal control, they referred so repeatedly to the necessity for stabilizing railway credit. As they have not done so and have necessarily delegated the work to others, it is perhaps proper to ask whether their representatives, in their zeal to make a good bargain for the government, have become obsessed with the idea that during the months that have elapsed between the taking of the property and the making of the bargain for compensation, railway credit has become relegated to the class of non-essentials, and may be substituted by the credit of the government.

In a statement accompanying the proclamation of December 26 under which the railroads were taken over the President said: "Investors in railway securities may rest assured that their rights and interests will be as scrupulously looked after by the government as they could be by the directors of the several railway systems."

In his message to Congress on January 4 recommending legislation to provide for compensation, he said that "One of the strong arguments for assuming control of the railways at the present time is the financial argument," that "the values of railway securities should be justly and fairly protected," and that "the owners and creditors of the railways, the holders of their stocks and bonds, should receive from the government an unqualified guarantee . . . that the several roads will receive under federal management such compensation as is equitable and just alike to their owners and to the general public." He added that "it is of the utmost consequence to the government itself that all great financial operations should be stabilized and co-ordinated with the financial operations of the government." Referring to the vast total of railway securities in the hands of small investors, banks, insurance companies, etc., he said, "the unquestioned solidity of that structure must be maintained."

Director General McAdoo has also made similar statements regarding the disastrous consequences to the financial structure of the country "unless unquestioned assurance could be given by the government of an adequate protection to the holders of railroad securities."

Since these things were said several things have happened. Instead of guaranteeing the railways, as the President had recommended, the average net railway operating income of the three years ending June 30, 1917, the railroad control act authorized as a basis "not exceeding a sum equivalent as nearly as may be" to that amount. Since then, at the hands of the government's representatives who have been negotiating with the railways regarding the contract, even the sum which is calculated from this indefinite expression is made subject to further deductions, the amount of which may not be anticipated at the time the contract is signed.

Instead of the "unqualified guarantee" to which the President said they were entitled, the tentative draft which was discussed at the meetings of railway executives and security owners held in New York last week does indeed contain a blank space in Section 7 for the amount of money said to be guaranteed as annual compensation, but immediately following is a list of deductions which may be made for so-called "excess maintenance," additions and betterments not justly chargeable to the United States, and other things. While there is a provision that the power to deduct for additions and betterments shall not be so exercised as to prevent the company from supporting its corporate organization, keeping up sinking funds, paying regular interest on its debts or on loans issued during federal control and approved by the director general, there is no provision that the other deductions shall not be great enough to make it impossible to keep up such payments. As to dividends there is an expression of policy that the power of deduction for additions and betterments shall not be so used as unnecessarily to prevent regular payment, but this is a long way from the "unqualified guarantee" of whatever may be held to be fair compensation. Moreover there is no protection of any kind for leased line rentals, failure to pay which might disrupt a system. It is understood that one of the arguments of the administration's representatives has been that, if confidence in the good faith of the government is not sufficient to maintain railway credit under these conditions, the credit of the government may be called upon to raise any sums necessary. It is apparent, however, that such an assumption is at considerable variance with the idea of maintaining private credit for the purpose of preventing undue strain on that of the government.

One of the provisions in the proposed contract which bears heavily on the patriotism of the railway owners is that which requires a complete release from all claim for compensation for all loss and damage to business and traffic. Director General McAdoo, in his testimony before the Senate committee, referred to the condition which might be found after the war by saying that "great numbers of important railroads might find themselves largely deprived of established traffic and seriously hampered in getting it back, and this will be highly detrimental to the security holders of all such railroads as well as to the public interest." He was using this possibility as an argument against turning the railroads back at once at the end of the war. During the 21 months' period of readjustment now provided for it is possible that some of the damage might be repaired. If the possible loss should prove to be small, the release provision would be of small consequence, but the government, under the tentative form of contract, requires the railroad companies to take all the chances.

Government Operation and Railroad Accidents

WHEN THE RAILWAYS were under private management it was the practice of certain classes of journals, when serious railway accidents occurred, to attribute them entirely to derelictions on the part of the financial and operating managements. The Hearst newspapers, because of accidents, published column after column of denunciations of the railway managements in blackface type, with a profusion of capital letters. Such virtuous and omniscient publications as the Christian Science Monitor and the New Republic joined in the refrain as loudly as they were able. Private management being held to blame, the conclusion usually reached was that the only remedy was government ownership and operation. Government management, under which the railways would be operated for the benefit of the public, and not for the profit of Wall street, would, it was said, put a stop to all these horrible catastrophes. When the *Railway Age* and other publications, which took the pains to investigate the causes of accidents, tried to present those causes and to show why government management would not necessarily remove them, they were denounced as the prejudiced organs of the railway companies and the financial powers.

We have finally got government operation. We have had it for over six months. Surprising as it may be to some people, incidents still occur. They continue to occur as certainly as Mr. Justice Brandeis' famous "million dollars a day" refuses to be saved. In fact, under government operation we are having some of the worst accidents in the history of American railways. Among those which have occurred since government control was adopted are the following:

On January 14 Houston & Texas Central passenger train No. 17 was derailed at Hammond, Tex., owing to a switch being loosened by a brake beam falling from a freight train. Seventeen persons were killed and 12 injured.

On January 31 a freight train on the Northern Pacific collided with a passenger train on the Great Northern at a crossing at Sedro Woolley, Wash. Five persons were killed and 18 injured.

On February 25 there was a rear collision between the passenger trains on the Southern Railway at Frost, S. C. Twelve persons were killed and 30 injured.

On June 22 an empty equipment train ran into the rear of a circus train on the Michigan Central at Ivanhoe, Ind. Seventy-eight persons were killed and 120 injured.

On July 9 two passenger trains collided on the Nashville, Chattanooga & St. Louis at Belle Mead Park, Tenn. The number of persons killed is estimated at about 80 and the number injured at about the same.

Needless to say, if this terrible series of accidents had occurred when the railways were under private management, the companies and their officers would have been denounced throughout the country, and the classes of journals above mentioned would have used them as an unanswerable argument that the managements were entirely inefficient and that the government must take charge. We should have heard frequent repetitions of the time-honored recommendation that, in order to make the railways safe, the presidents and boards of directors should be required to ride upon the cow-catchers.

If the occurrence of accidents formerly afforded a fair argument against the continuance of private management it has now become, by the same token, a fair argument against the continuance of government operation. It may be alleged that these accidents are attributable to the condition of the properties when the companies turned them over to the government. With one possible exception, however, all of them were due, not to failures of the railway plants, but to failures of employees to do their duty at critical moments.

Shall we, therefore, attribute this series of accidents to government operation? To do so probably would be as unjust as many of the brutal diatribes against railway companies and railway managers, which have been published in the past, not only in malicious and irresponsible newspapers, but even in reports of state railroad commissions and of the Interstate Commerce Commission. Accidents, even bad accidents, or even series of bad accidents, are by no means infallible proof of bad management. All the conditions under which they occur must be considered. They are far more likely to occur on a railway having a large number of inexperienced or comparatively inexperienced employees than on the same railway when it has few such employees, and all railways at present have numerous inexperienced employees. They are far more likely to occur on a railway which is handling a heavy traffic than on the same road when it is handling a light traffic, and practically all the railways are now handling the heaviest traffic, both passenger and freight, in their history. It is easily conceivable, therefore, that the recent accidents would have occurred if the government had never taken over the railways. There are, however, three points, among others, which they suggest.

First, the fact that the railways are now being operated by the government is no good reason for trying to cover up the facts regarding accidents. When the railways were under private management the press and public officials properly demanded that all the facts about accidents should be made public. Now, however, there is being manifested a tendency to attempt to cover up the facts. The investigation of the collision on the Michigan Central at Ivanhoe, Ind., was conducted jointly by representatives of the Indiana Public Service Commission and the Interstate Commerce Commission. To the shame of Indiana and the government of the United States, it was turned into a star chamber proceeding, and representatives of the *Railway Age* and other publications were denied admission. No sufficient explanation or defense has been or ever can be given of this action.

Second, the government is going to find that in order to keep accidents at the practical minimum it will be just as necessary to maintain discipline among employees under government operation as it was under private operation. The maintenance of discipline requires that operating officers shall, according to their ranks, possess and exercise authority to reward and punish employees according to their deserts. It is just as necessary that officers of railways shall possess and exercise such authority as it is that officers of armies shall. If government operation is to any considerable extent responsible for the bad accident record which is now being made this is because its adoption has caused certain changes in the attitudes and relations of the operating officers and employees to each other which tend to undermine rather than to improve discipline. Developments which have occurred on the railways, especially since the "basic eight-hour day" fiasco in August, 1916, naturally have caused certain classes of employees to believe that they have more numerous and powerful friends in Washington than their superior officers. The officers charged with the duty of administering discipline have the same impression. In these circumstances, discipline is likely to be more difficult to maintain than heretofore, and without discipline there will be more accidents.

Third, contrary to the confident predictions of advocates of government management, government operation is not yet preventing or showing any perceptible tendency to reduce accidents. Astonishing as it may seem, the newspapers which have devoted so much blackface type to denouncing the railway companies are not devoting any blackface type to calling attention to this fact; but a fact it is, nevertheless. The miracle which for years we have been assured would be worked refuses thus far to be worked. Criticism of the Railroad Administration for this would be unreasonable—

as unreasonable as much of the criticism of the railway companies and their officers which was published when the railways were under private management.

The Automatic Stop

THE SPRINGFIELD (MASS.) REPUBLICAN in its issue of July 5 says, "The *Railway Age*, discussing the wreck of the circus train on the Michigan Central, demands the general adoption of the automatic stop and intimates that the national railroad administration should go ahead and install these appliances at once, not waiting for the ideal device to be developed. . . . . But while railroads have often been criticized for not making the expenditures essential for safe operation few papers would have suggested government enforcement of the sweeping reform the *Railway Age* now demands . . . . for it is asking the government to undertake a radical and expensive improvement in the interests of safety which the railroads have refused to undertake."

The interpretation which the Springfield Republican has placed upon the editorial, "What Lessons Do Collisions Teach?" which appeared in the *Railway Age* of June 28, differs widely from that which we intended should be put on it. Evidently, our discussion was not clear. Since the collision on the Michigan Central another wreck has occurred in which nearly 100 persons were killed and about the same number injured, this, however, being in territory not operated under the block system. This catastrophe renders it necessary to refer to the subject of automatic train stops again and this time we shall try to so state our views on this subject that they cannot be misunderstood.

The tracks, equipment and operating rules of most of our railroads are good, and the operation of the trains is surrounded with numerous physical safeguards, including, on many lines, the automatic block signal system; but even on roads which are physically in the highest state of development the toll of life continues to be taken because of failures of the human element. It would appear that the preventive of catastrophes due to collisions such as those on the Michigan Central and the Nashville, Chattanooga & St. Louis would be the installation of some form of automatic train stop as an adjunct to the automatic block signal system, but it still remains to be determined whether the automatic train stop actually would serve the purpose. A number of automatic stops have been developed and tested on sections of track, but have these devices been widely enough and long enough tested in actual service to determine finally the manner in which they would act under the severe and varied conditions of operation on railways in all parts of the country? The theoretical operation of an automatic stop as developed in the laboratory, or even its operation on a single section of track, does not show conclusively how it will act in road service generally and under all weather conditions. It has taken years of development to bring the automatic signal to its present position and its development has been mainly due to lessons learned from installations in actual road service.

While the development of the automatic stop, in general, has not reached a stage at present which would justify advocating its universal installation, we believe the time has come when a wider application is warranted in order to determine by the test of wide experience whether existing stops meet the requirements and whether, if they do not, they or others can be so developed that they will do so. Experience may show that automatic stops cannot be so developed as to meet all conditions imposed by road service, but until we have had more experience with them in actual service the question where they should be brought into wide or universal use will remain unsettled.

Letters to the Editor

Tank Engines

PRINCESS BAY, S. I.

TO THE EDITOR:

Can anyone tell me why American railways don't make more use of "tank" engines.

Traveling over the country, one is constantly confronted with the sight of yard and switch engines, "one car" local and branch line trains, suburban services and other short runs, in every case the locomotive being burdened with about forty tons of perfectly useless tender.

On the suburban road on which I live, every locomotive drags along a 3,000-gal. tank of water and about five to six tons of coal, for a run of 14 miles in all. Every time I see it, I try to figure out how many wasted ton-miles this represents in a year.

This is one of the things they do better in Europe and particularly in England, where tank engines are used on all local runs up to 30 miles and sometimes even further. The engine is identical with the big tender engine except that it carries sufficient coal for the run in a short bunker, with water in side or saddle tanks.

Another advantage is that the weight being all on the locomotive wheels, there is better adhesion, these tank locomotives having truly marvelous powers of "getaway" even with a heavy load.

AUSTEN BOLAM.

The Ivanhoe Collision

AURORA, ILL.

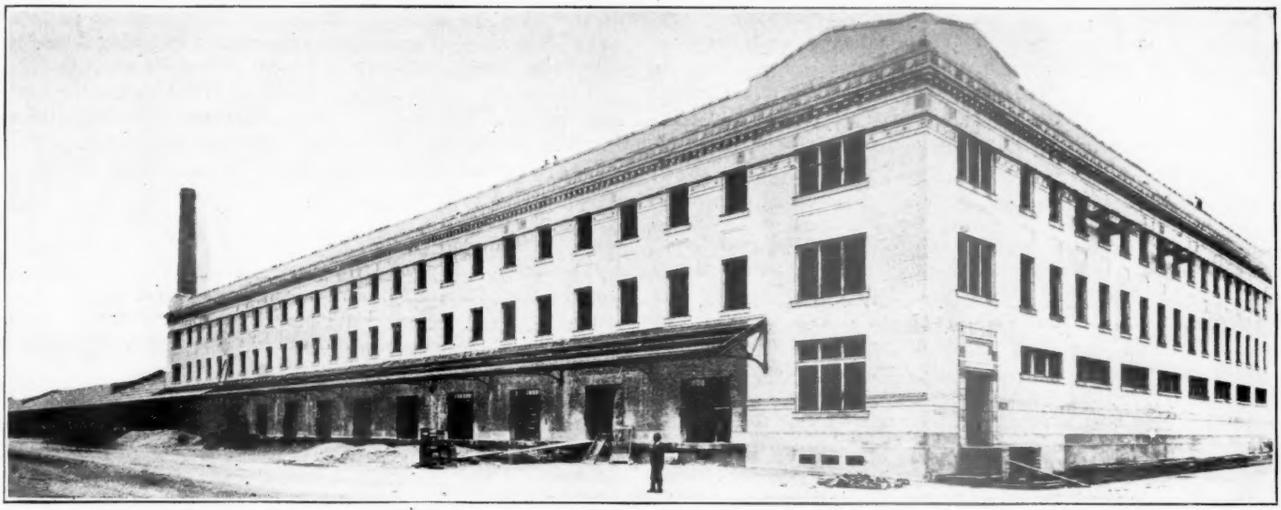
TO THE EDITOR:

I heave read with much interest the article covering the wreck on the Michigan Central, where over 70 persons were burned to death or otherwise slaughtered, which appeared in the *Railway Age* of June 28. Truly, it is time that something should be done to set our minds clear on the question, Whither are we drifting? Your editorial should be deeply considered by all of "the powers that be."

One gets the impression that you are too easy with the railroads and the government and too hard on the engineman. You very deferentially invite the Administration to look into the subject of automatic appliances, and you suggest to the railroads that they have a duty to experiment with inventions; but you would try the poor engineman for manslaughter—which might mean life imprisonment! I would not suggest that you should imprison the railway officers; that would not even up matters. I do not suggest anything. I only give you my impressions. You say that if the enginemen were punished for committing these terrible mistakes they would be more careful. But are they not punished already? Every now and then one loses his life by not looking at a semaphore, and the fact is published in the newspapers. Death is punishment, surely. What more severe penalty could be devised? Death (or imprisonment) at the hands of the courts could not be more certain. It might, perhaps, be less certain, because of the labor unions, who are quick to defend and excuse a member of the union who falls into the clutches of the law.

Sleeping at their post is a weakness that sometimes afflicts very good men. President Wilson has just pardoned two soldiers who were condemned to death for this offense. Enginemen known to me admit they have trouble in keeping awake at times. Is not your other remedy, mechanical safeguards, better than swinging the club of the law? See how futile Mr. Roosevelt's "big stick" has become!

S. BLANCHARD.



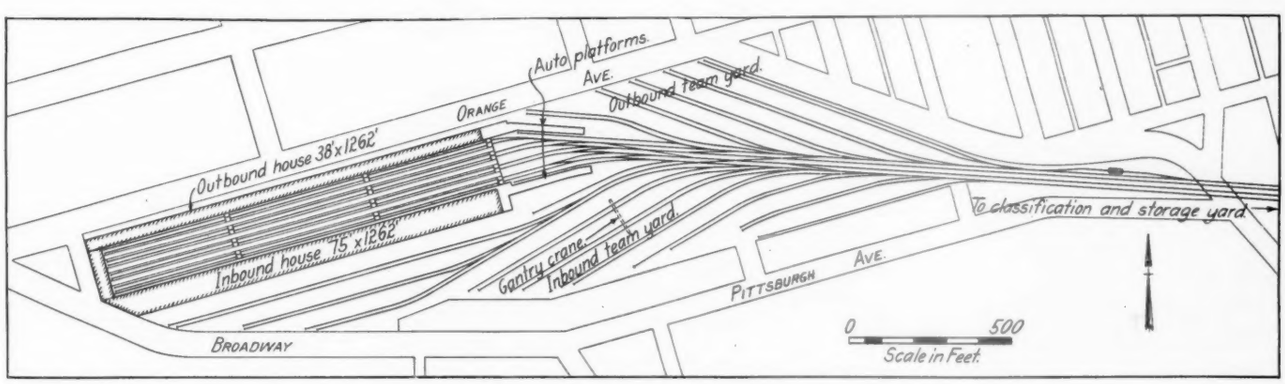
The Head House and a Portion of the Outbound House

New York Central Opens Cleveland Freight Terminal

Four-Million-Dollar Investment Has Put Large Local L.C.L. Station in Strategic Location

AT A COST of more than $4,000,000 the New York Central is now completing new local freight facilities in Cleveland which are unsual for their size and the new features introduced in their construction and operation. The plant involves separate inbound and outbound houses 1,262 ft. long, house tracks accommodating 235 cars, team yards with an ultimate possible capacity for 559 cars, classification and storage yards holding 1,000 cars, and a double-track branch line 3½ miles long connecting with the New York Central belt line around the city. The yards also provide the facilities for receiving and making up road trains. The location of the plant at the upper level of the city near the center of the business section reduces trucking charges about 20 cents per ton and this material saving to shippers furnishes the warrant for the expenditure.

When opened for service the new plant will replace the old local freight facilities which were inadequate and incapable of expansion to meet the present day needs. The facilities to be abandoned include inbound and outbound pier freight houses near the Union station, an inbound house at Front street, and an outbound house at Central Way, all located on the low level along the lake front and Cuyahoga river, while the main business section of the city is located on an upper level approximately 100 ft. above Lake Erie; also an inbound and outbound house at Mason street on the top of the hill on the lake front. The streets connecting the two levels involve grades of 7 per cent or more, and the necessity of trucking up these grades acts in addition to the 20 cents per ton extra cost as a serious retardent to the operation of these low-level houses. As a consequence, all the railways have aspired to secure the advantages of a location on the upper level, and 12 years ago the Pennsylvania built the first station on this level. This was an immediate success and resulted in a remarkable increase in the volume of business handled. Following the construction of the Pennsylvania's upper level facilities, several similar projects were planned, some of which are now under construction. Of these, the New York Central plant is the largest and most important.



Layout of the Freight House and Team Yard

The preliminary studies from which the design and size of this station were determined were exhaustive, including investigations into the growth of Cleveland for several years

past and the relation of the growth in population to the volume of business handled. Studies were also made at New York Central freight houses in various cities along the line, with a view to determining the most economical length of house, the net floor area required per ton of freight handled per day, and the relation of driveway access to economical operating.

Design Based on Extensive Study

From these studies it was developed that the population of Cleveland has for many years increased at the rate of 4 per cent compounded annually, and that the corresponding increase of freight handled was about 7 per cent. Based on Anallogon's experience it was estimated that the increase in the volume of business to be expected within the next two years resulting from the new location would amount approximately to 120,000 tons. With all this data in hand a profile was platted from which was estimated approximately the capacity which will be required in any future year.

The decision as to the length of the house to be adopted was based on the possibilities of the site and studies made at other New York Central inbound freight stations. In these studies the problem of trucking in the house, especially of inbound freight, was given particular attention, and 1,250 ft. for house length was determined upon as the approximate limit consistent with economical operation.

These studies made at other houses developed the fact that 135 sq. ft. net floor area or 150 sq. ft. gross floor area is required for each ton of freight handled per day, and that the driveway is a limiting factor in the tonnage handled per day per door. Consequently in the new layout the question of improved driveways was given particular attention and while the investigation showed but 13.5 tons of freight handled per day per door in some of the older plants, 15 tons was assumed for the new facilities. With these figures in hand, it was only necessary to assume a door spacing, which in this case was called 10 ft. center to center, and to determine on the number of floors to be served, to arrive at the house width. In this plant, with three floors in the freight house proper and assuming 150 sq. ft. gross floor area per ton of freight handled per day, and 15 tons as the capacity of a door, the width indicated was 75 ft; and this width was not changed when the number of door spaces was reduced in changing the panel spacing from 20 ft. to 21 ft.

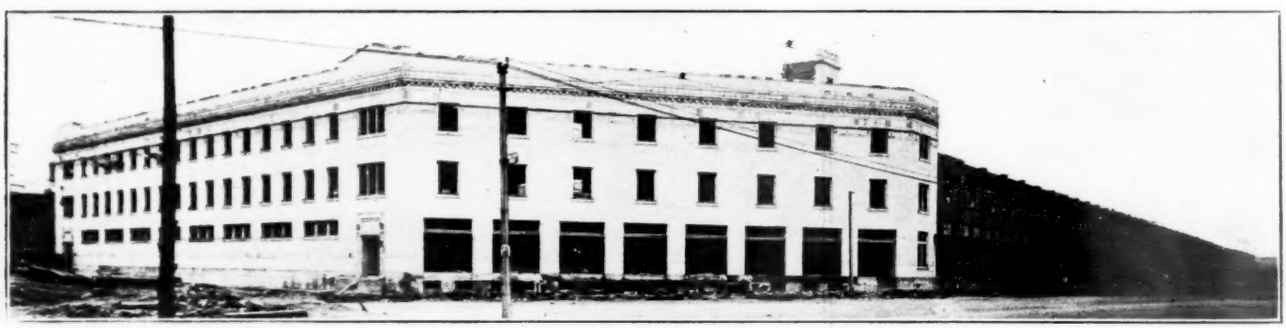
Still assuming 150 sq. ft. gross floor area required for each ton of freight handled per day, with three floors and a width of house of 75 ft. the capacity per day was determined to be 1.5 tons per linear foot of house. This, multiplied by the length of 1,250 ft., results in 1,875 tons as the full daily capacity of the house. This capacity, however, is subject to correction, as it is based on figures giving full capacity, and the studies made at the Cleveland houses indicated that the average monthly tonnage handled is about 88.6 per cent of the maximum monthly tonnage. With this correction made the chart showing the growth of the city and the amount of the yearly increase in the volume of business handled could be used to determine how long these facilities could be expected to fulfill the requirements, and in this instance 1930 is the year indicated when the maximum capacity of the plant will be reached.

General Layout

The new plant is located conveniently to the business section of the city. The buildings are arranged in the form of a U, the two houses being parallel to each other and connected at the west end by a 50-ft. platform over which the head house is erected. The 156-ft. space between the buildings is occupied by tracks and platforms. The site was thickly settled and crossed by many streets and alleys. Within the bounds of the terminal property these streets have been vacated by the city and in return therefor, the railroad was required to widen and extend certain streets in the vicinity, and to construct a new street, 80 ft. wide called Mayflower road; while Orange avenue, an 80-ft. street adjoining the plant on the north, (the outbound house having a frontage of 1,262 ft. on this street) was made 100 ft. wide by setting the house back 20 ft. from the property line. The head house with three floors occupied by offices has a frontage of 197 ft. on East Fifteenth street, and 125 ft. on Broadway. A driveway 50 ft. wide leading from Broadway has been provided adjoining the inbound house. In the driveways and the new street paving, Medina stone or Durax block has been used.

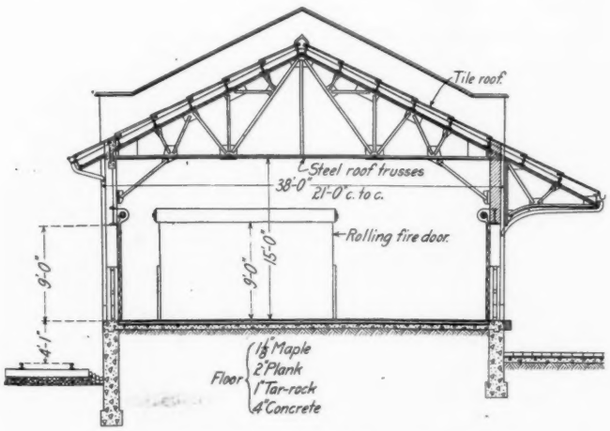
The outbound freight house is 1,262 ft. in length and

Interior of the Inbound House



Exterior of the Head House and the Inbound House

the width was fixed at 38 ft. This is ample for the little storage room needed, and provides plenty of space for working, and aisles for trucking. The house is one story high above the track level except for 296 ft. on the west end, where the office building over the connecting platform was carried around over this house. A basement 485 ft. long



Cross Section of the Outbound House

is provided under the west end of this building. The basement space is utilized for coal storage, boiler, pump, fan and general storage rooms and toilet, locker and lunch facilities for house employees.

The inbound house is 75 ft. wide and two stories high above the track level with a basement under the entire building and its adjoining platform. The basement space under the building is utilized for freight handling. Storage pipe lines and incidental facilities are carried under the platform.

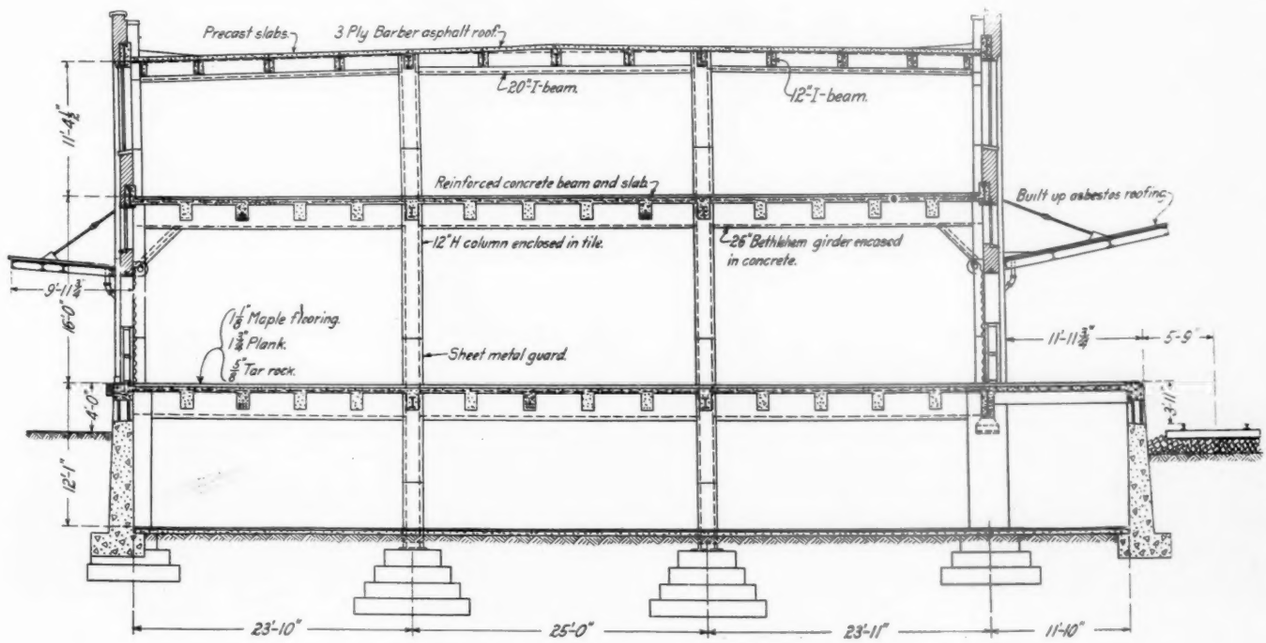
A basement is provided under the platform and head house, connecting the two houses at the west end. Space is provided in this basement for special freight, a repair shop and garage for tractors, a fireproof vault for the cashier's office, a cooper shop, toilet facilities for men and women employees of the cashier's office and the "jail."

The 156-ft. space between the two buildings is occupied by a 12-ft. platform adjoining the inbound house, and three island platforms 16 ft. 6 in. wide, separated by four pairs of tracks, spaced 12 ft. center to center. No platform is provided adjoining the outbound house. The centers of near tracks clear the face of the outbound house 6 ft. and the edge of the platform, 5 ft. 9 in. In addition to the 50-ft. platform at the west end, the two houses and the platforms are connected at the east end and at two intermediate points by wooden bridges, 16-ft. wide. These are double leaf bascule bridges, operated by hand at present. Eventually it is proposed to operate them by power.

The bridges divide the house tracks into one 10-car section, and two 9-car sections, making a total capacity of 224 cars for the tracks between the houses, 168 cars of which will be available for outbound setup. Additional track capacity for 11 cars is also provided in the tracks adjoining the automobile loading and receiving platforms, which are located east of and adjoining the houses. Both of these platforms are 300 ft. long.

Structural Details

The buildings are of steel and reinforced concrete construction with vitrified paving brick used for both exterior and interior walls except in the three-story section, where white porcelain brick and terra-cotta trim was used. The longitudinal panel spacing in both houses is 21 ft. to conform to a 42-ft. car length and the doors on the track side of the inbound house are 9 ft. by 9 ft., provided in alternate panels opposite car doors. On the track side of the outbound house where no platform is provided the doors are 9 ft. high by 19 ft. long. Along the driveway all doors are 9 ft. by 9 ft. and the fire doors in the houses are 9 ft. high and 12 ft. wide as a rule. Kinnear steel rolling doors were used throughout.



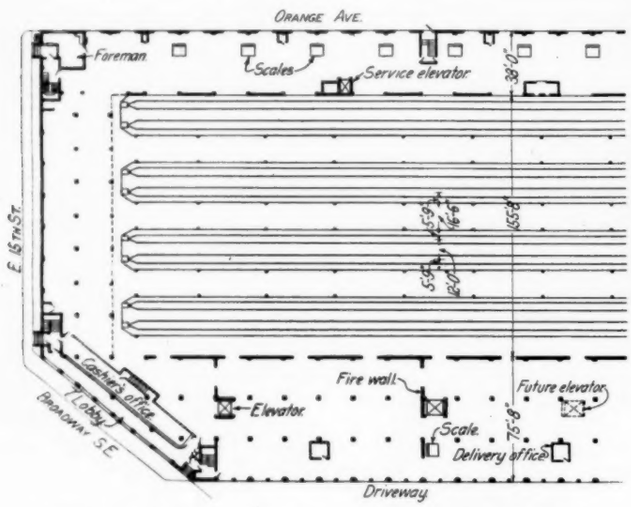
Cross Section of the Inbound House

Provision is made in the platforms and doors on the track side to hold the ⅜-in. steel gang planks in place. This is accomplished by providing slots formed of angles to receive heel lugs on the gang planks. The slots are placed 18-in. from the face and the platforms and door-way edges are beveled to 1 in. below the slot, to reduce the amount of arching. The gang planks are 3 ft. 6 in. by 3 ft. 4 in. with

a 3-in. arch provided to make them suit any height of car.

The finished floor of the first story of both houses and of the platforms is of 1⅛-in. matched maple laid diagonally on 2-in. planks and treated with carbolineum. The concrete sub-floor in the one-story part of the outbound house is supported on the filling between the foundation walls. Where a basement is provided the sub-floor is of the slab and beam type.

The inbound house is three panels wide and has a flat roof covered with pre-cast concrete slab tile. This type of roof was used over the office portion as well. In the outbound house advantage was taken of the 38-ft. width to



Plan of the West End of the Terminal Building

keep the room clear of posts, the roof trusses spanning between the walls. The roof covering is cement tile.

The driveways for a 10-ft. width immediately adjacent to both houses and the platform adjoining the inbound house are covered with suspended canopies and the timber roofs of the island platforms are supported on steel side posts spaced 42 ft. center to center, and longitudinal trusses. These roofs are covered with a built-up asbestos roofing.

In the construction of the inbound house provision has been made for future floors. The footings have been built large enough to support the additional load and the additional strength of the exterior columns has been secured by surrounding them with reinforced concrete. The interior columns have not been reinforced in the present work, but have been incased in tile which can be removed easily and replaced with reinforcement when the occasion demands. The roof is carried on light beams which are bolted so that they can be removed and used higher up.

Modern Operating Appliances

The plant is designed to be operated either by hand or by machines, or by both. For mechanical operation, six electric tractors of the three-wheel-type and 400 four-wheel trailer trucks working in trains will be provided. These

Interior of the Outbound House Showing Ordinary Two-Wheeled Hand Trucks Used as Trailers

tractor trains will be used chiefly for outbound freight where at present it has been planned to operate the trains in a westerly direction in the house and easterly on the platforms.

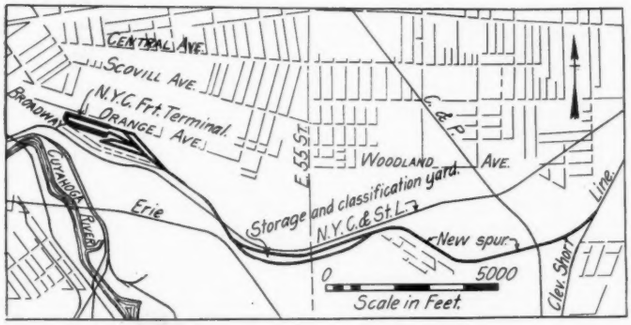
Because of the size of this plant the usual plan of unit office installation has not been followed. The general office will be on the second floor, with sub-offices located at convenient points throughout the plant. The cashier's office is conveniently located on the first floor at the west end of the building. A private branch telephone will give automatic intercommunicating service between this office and nearly 100 stations in the offices, houses, platforms and yards, and connection to the city telephone service. A pneumatic tube installation for the transmission of bills between offices replaces the usual messenger service.

One 10-ton, five 6-ton and one 5-ton electric elevators are installed in the inbound house and push-button automatic elevator service in the office portion of the outbound house. The 10-ton elevator located at the east end of the house is 9 ft. by 22 ft. providing ample room for handling automobile trucks. For the protection of perishable freight held

The Yard End of the Terminal, Showing the Method of Handling Freight With a Storage Battery Locomotive and Trailers. The Trucking Bridge Over Tracks No. 6 and 7 Is Elevated.

for shipment or delivery a cold room is provided on the first floor in the inbound house. The temperature in this room is regulated by an 8-ton refrigerating plant, above which is an ice storage room containing ice used primarily for icing cars.

Twenty-four 6-ft. by 8-ft. automatic dial platform scales are provided in the outbound house and six in the inbound house. The indirect system of lighting is used in the offices, and the direct system in the houses. Plug connections for



Map of the New Terminal Spur

extension lights to be used inside cars are provided at each door and on the platforms.

The fire protection is very complete, including automatic sprinklers in the offices and ultimately in the inbound house, hydrants and standpipes on the platforms and in all the houses, numerous chemical engines, a fire alarm system and city fire alarm boxes. A 150,000-gal. concrete reservoir is provided at the east end of the inbound house to supply water to a 150-h.p. electric fire pump, also a 100,000-gal. tank on a 105-ft. tower is to be added when the sprinklers are installed in the inbound house.

Long Spur Connection Required

As may be seen in the map of the city the terminal occupies a site remote from the New York Central tracks. To reach it a new double track line 3½ miles long was built from a connection with the New York Central belt line near Buckeye road. The line was built in connection with the Cleveland & Youngstown Railroad, a line constructed to furnish transportation facilities to Shaker Heights, a desirable residential section of Cleveland, which is being developed with the aid of rapid-transit facilities. For much of the distance the new line is four-track construction, one-half of which is occupied by the tracks of the Cleveland & Youngstown Railroad.

Beginning at the connection with the belt line the line extends in a westerly direction crossing several streets and two railways. At all crossings the grades have been separated, and with the exception of Kinsman road and East Fifty-fifth street, the new line crosses over the streets. The two railways are also crossed overhead.

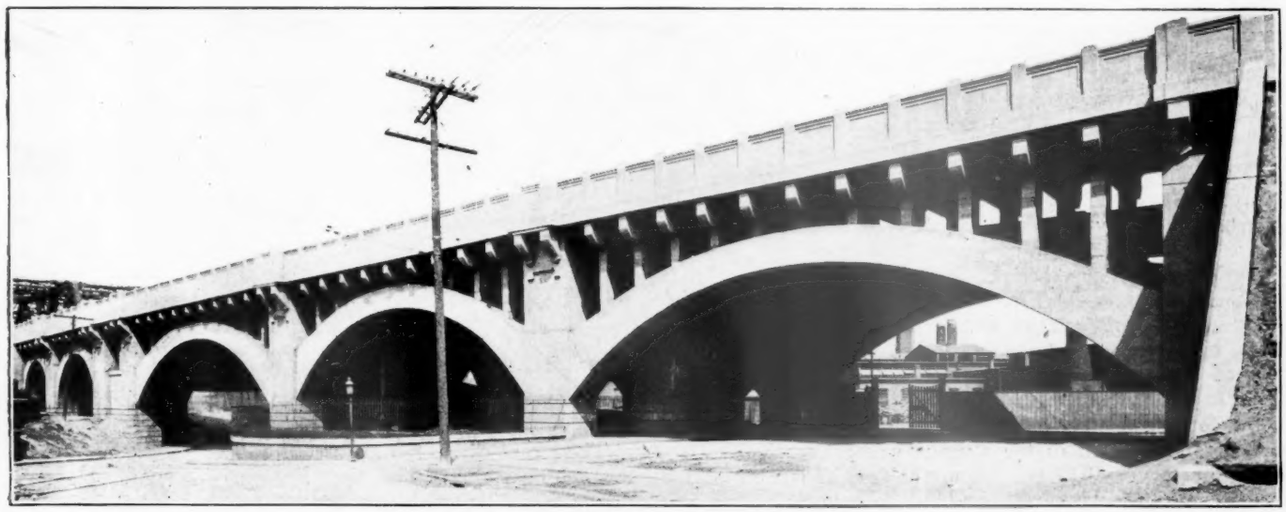
The new line was constructed chiefly on fills and involved some very heavy work. The heaviest work was confined to two long fills 75 ft. and 60 ft. high on the double-track portion of the line, and a 35-ft. to 66-ft. fill under the classification yard, which contains 1,250,000 cu. yds. of material which is chiefly waste slag from mills at Sharon, Ohio, and Youngstown. This filling material was brought in by train and much of it dumped through a dumping trestle into bins, from which it was dropped into dump cars, ready for placing in the embankment.

The bridges are all designed for Coopers E-60 loading and girders were used where the length allowed. The bridge over the Pennsylvania tracks is a truss span. Reinforced concrete arches were provided at several points. The concrete work also included more than a mile of box-section reinforced concrete sewer built under the yards.

Auxiliary Facilities

Two yards have been provided in the layout, the lower yard for storage and classification, and the upper containing the team tracks and house tracks. The lower yard comprises an inbound and an outbound yard each having a capacity for 500 cars and arranged for gravity switching. The inbound freight is classified in the section of the lower yard between Kinsman road and East Fifty-fifth street, and the outbound freight in the section west of Fifty-fifth street. The upper yard occupies a site about one-half mile long and 600 ft. wide and contains approximately 35 acres. This yard contains 27 team tracks with a capacity for 550 cars, and the tracks serving the terminal buildings with a capacity for 235 cars. In spite of the heavy construction on the line, a grade of 2 per cent was necessary up from the outbound yard, and a 1.27 per cent grade up from the inbound yard. The terminal yard is approximately level.

The main units of the team yards are the outbound yard facing on Orange avenue with a capacity for 162 cars, and the inbound yard with an ultimate possible capacity for 397



The Concrete Bridge Over Hilton Ave.

cars, facing on Broadway. An office, 20 ft. by 30 ft., built of brick and containing toilet and other facilities for the working force will be provided for each of these large units.

The team tracks have an average capacity for 20 cars, permitting of easy switching. While the value of property was considered, and care was taken not to be extravagant with space in the design of these yards, operation was considered first, and driveways were made unusually wide, those in the outbound yard being made 40 ft. wide, while the inbound yard will have 37 ft. driveway. These widths permit the longest automobile trucks to back up to a car without blocking the drive. A gantry crane with a 25-ton main hoist and a 5-ton auxiliary hoist will be provided in the inbound team yard. This will span one driveway with cantilever arms reaching out over adjoining driveways thus serving four tracks and three driveways.

The design of the terminal yard was made with a view to rapid switching and the track arrangements permit several engines to work at the houses and in the team yards at one time without interfering with each other. This makes for economical and rapid operation of the house.

Work on this project was begun in 1913, and in June, 1917, the building construction was started. The greater part of both houses are now in operation, with temporary office facilities and it is believed that the houses will be completed and the plant, except the inbound team yard and part of the lower yard, in full operation by August 1, 1918.

This terminal was designed by Samuel Rockwell, consulting engineer of the New York Central at Cleveland, who has been in full charge of the construction. The Watson Engineering Company, Cleveland, has had charge of the structural, architectural and mechanical design and supervision of the buildings during construction. The Walsh Construction Company, Davenport, Iowa, was the general contractor for the railroad construction and the principal contractor on the building work.

Railway Notes from China

PEKING.

THE MINISTER OF COMMUNICATIONS has reported to the Cabinet a profit of $13,500,000 (silver) from the operations of the government railways in 1917. This is a decrease of over $6,500,000 compared with 1916, and an increase of nearly $4,000,000 compared with 1915. This profit is the sum remaining after payment of operating expenses, interest, and other financial charges. However, it is not clear from the report that this estimate has included anything for the transportation of troops and other military supplies, which probably amounted to three or four million dollars at the half-rates usually assessed upon this class of traffic. On the other hand nothing has been deducted to allow for the depreciated value of bank notes in which a considerable portion of the revenue was collected.

By the end of 1917 two important new lines were so far constructed as to be carrying public traffc. The most important of the two was the line from Wuchang—on the south bank of the Yang Ste river, opposite Hankow—to Changsha. This line extends about 260 miles and is a section of the much desired Canton Hankow line. It is being financed by the Four Nation Group of banks of which the American representatives are J. P. Morgan & Co., Kuhn, Loeb & Co., the First National Bank, and the National City Bank. Chinese private capital has been slowly building northward from a connection with a government line running out of Canton. The gap between this new section and the Chinese section is now reduced to about 250 miles.

The other line is one of 55 miles running from Ssupingkai to Chenchiatun. Ssupingkai is on the South Manchurian railway about 100 miles north of Mukden. When exchange rates and the market for materials become more favorable this line is to be extended as far west as Jehol. This line was financed by the Yokohoma Specie Bank, the Chinese government giving the usual guarantees and a mortgage upon the line. It is operated as a branch of the South Manchurian Railway, which is under Japanese control.

Japanese engineers are reported to be making a reconnaissance survey of a line from a junction with the Shantung railway at Tsinanfu westward to a connection with the Taokow Chinghua line which crosses the Peking Hankow line. From entirely different sources comes a report that prior to his late resumption of office, the Chinese Premier had arranged with a "certain power" for a loan of $20,000,000 to be had in connection with "a railway near Shantung." Such a line would be a very valuable feeder to the Shantung Railway—something of which it appears to be in need. It would also be a splendid instrument in the service of the present Japanese policy of peaceful penetration, extending as it would a trunk line from the magnificent harbor of Tsing Tau, taken from the Germans by the Japanese, to the heart of North China. At the same time, civil administrative courts are being set up by the Japanese at various points in Shantung, and Japanese interests have secured a partnership with the Siems Carey Railway & Canal Company for the rehabilitation of the Grand Canal which traverses the same province.

* * *

An interesting change in the terms of loans to the Chinese government is offered in the contract with the Fu Chung Corporation for two locomotives and 50 new coal cars for use on the Taokow Chinghua Railway. Hitherto a mortgage upon some definite property or revenue has been given as security, but in this case the mere guaranty of the Ministry of Communications has been accepted as sufficient.

* * *

A new departure by way of stimulating esprit de corps upon Chinese railways was inaugurated on April 5, by the Peking-Hankow line. That date being Arbor Day and a holiday, the formal ceremonies were merged with a picnic excursion. A special train carried a large part of the office force from Peking to a station in the western hills, where the railway proposes to start a tree plantation. Each person present, including the managing director, planted one or more trees in rows previously indicated, after which the day was spent in games and rambles to historic points in this ancient royal playground. To Americans such an event seems commonplace. But in China previous to the confiscation of the Manchu lands there were no places in which to hold picnics, and recreation was almost invariably sought in tea houses and theatres. The managing director of the Peking-Hankow line, Dr. C. C. Wang, holds degrees from the University of Illinois and from Yale.

* * *

The recent collapse of a bridge under a soldier train upon the Peking-Hankow line near Hwayuan brings up the subject of rebuilding very sharply. A similar collapse occurred last year upon the same line. These bridges were originally designed for light traffic, for it was not known at the time this line was built how rapidly traffic could be developed upon Chinese railways. The typical locomotive during the first years of operation was very similar to the old American Eight-wheeler. Now super-heated Consolidations are being used and the maintenance of the bridges is perhaps not of the best; hence slow orders must be observed. But soldier trains as a rule do not observe slow orders. In 1920 the original expected life of the great Yellow River bridge will expire. Materials will no doubt be sought abroad. Recently when tenders were invited for certain bridge materials, the bids from Chinese firms, now under Japanese control, were so high as to make it obvious that the business was not wanted.

Doings of the United States Railroad Administration

Railway Property Insured by Government; Vigorous Criticism of Proposed Compensation Contract

WASHINGTON, D. C.

DIRECTOR GENERAL MCADOO, who held a conference with the regional directors and federal managers of the central western and northwestern regions and C. R. Gray and Edward Chambers, of his Washington staff, at San Francisco the early part of the week, is returning east by way of Seattle. R. S. Lovett, director of the division of capital expenditures, left Washington on Tuesday to meet him at Seattle for conference regarding capital expenditures necessary to obtain a greater unification of the railroad facilities in the far west, in such ways as by connecting competing lines for use as double tracks, etc.

Compensation Contract

That the negotiations regarding the railroad compensation contract between the representatives of the Railroad Administration, the railroad executives and the National Association of Owners of Railroad Securities have by no means reached a conclusion was indicated following meetings of the Railway Executives' Advisory Committee and committees representing the security owners' organization held in New York last week, July 11 and 12.

After receiving a report from the law committee of which Alfred P. Thom is chairman, regarding the progress of the negotiations, the executives' committee gave out a statement saying that it felt that the government's proposed draft of the standard clauses for the contract, dated July 5, was "in the main acceptable," but that there were some points which the committee desires to discuss further with the government's representatives.

At a meeting of a sub-executive committee and a special committee of the security owners' association held afterward, however, a resolution was adopted expressing the judgment of the committees that the tentative draft was "unacceptable" in several important particulars, and that the committees proceed by further negotiations and by appeal to the director general with the effort to secure modifications. It was also resolved that in making such efforts the committees co-operate with the Railway Executives' Advisory Committee.

Features of the contract which in the present form are unsatisfactory to the security holders were outlined in the following communication addressed to T. DeWitt Cuyler, chairman of the Railway Executives' Advisory Committee, by S. Davies Warfield, president of the association and chairman of the committees:

"Referring to the tentative draft of contract recently submitted by the representatives of the government for the federal control and operation of the railroads during the period of the war, in the negotiations of which your law committee and the committees representng the owners of railroad securities have taken part, while it presents important modifications in the compensation clauses of the contract there still remains the necessity for requesting a further modification of the terms of this provision. Other provisions of this contract, however, are retained in the same objectionable form which the committees representing both your committee and the association of security owners have contended should be corrected and which are still in extremely unsatisfactory shape and do not protect the credit of the railroads nor the owners of their securities to the extent which we have the right to ask and to expect.

"It has been generally assumed that in some way the tentative draft of contract provides a *guaranty* of the payment of interest and regular dividends heretofore paid on the securities of the railroads. The security holder has also assumed that as to the principal of his investment he would be at least as safe as before; since it has been believed that the government under the contract will only use the railroad's transportation system, and that at the end of the period would return in each case a going transportation system not less solvent or less capable of private operation than when it was received by the government. We do not need to point out to you that this will not be the result under the tentative form of contract which is now submitted.

"While we should now appeal to the representatives of the government who have appeared in these negotiations, they may feel that further modification of this contract that we may deem essential to the protection of the railroads and the holders of their securities must be obtained through Director General of Railroads McAdoo. We have apparently arrived at the point which it was contemplated might result and which you provided for in your announcement at the last meeting of your full committee held June 5, 1918, that should this time come you would name several members of your committee and ask us to appoint several members of our committee to lay directly before Mr. McAdoo what we now feel to be the essentials.

"We ask that before any definite action is taken in respect to this tentative draft of contract by your full committee that an opportunity be afforded to bring to the attention of the director general and those in high authority the dangers we contend will be met in the execution of the draft of contract now to be considered by your full committee and which the representatives of the government in its submission have printed thereon: 'Tentative Draft.'

"Congress expected that this contract would be made by the President or else his nominee, the director general, who is also the secretary of the treasury, and who doubtless would be glad to have the views of those who represent so vast an ownership in the securities of the railroads, before the contract is finally agreed to. The security holders have a right to expect that this contract shall be finally negotiated with him before any final action shall be taken upon it by the directors or the executives of the railroad corporations."

The objections pointed out in the letter and in which the security owners feel there is a failure to protect their interests are summarized, in a statement issued by the association, as follows:

1. It requires the carrier, in advance of any knowledge of the changes which are to be made in the operation of its property, to release the government from all claim for compensation for the abandonment of all or a part of its system of transportation; the severance of its connections and the destruction of its business, although nothing in the act of Congress contemplated that any such unreasonable demand should be made.

The contract requires that the company, in order to secure the standard return which is given it by the act of Congress by way of rental for the use, possession and control of its physical properties during federal control, and for nothing else, shall at this time accept that standard return (in the words of the contract):

"in full adjustment, settlement, satisfaction and discharge of any and all claims and rights at law or in equity which it now has or hereafter can have—under the constitution and laws of the United States—for any and all loss and

damage to its business or traffic by reason of its diversion or otherwise which has been or may be caused by said taking or by said possession, use, control and operation."

It thus strips the company at the outset of every vestige of right to complain of the destruction of its good-will and business without compensation. It is a blind blanket warrant to the government that permits it, in the process of unifying the railway systems of the country, to abandon the operation of any portion of a transportation system, sever and cancel its contract agreements and connections, divert, disrupt and destroy the business that has taken generations and millions to upbuild, and to hand back the physical property, which is the mere empty shell of what was surrendered to the government, stripped of everything that was of value.

In advance of the knowledge of the extent to which the property is thus to be dismembered under this unthinkable blank power of attorney, the company is now required to approve all that may be done and to keep and save the government harmless against the destructive consequences. If the trustees holding the securities of these roads were to acquiesce therein without protest, they would be rightly held by the courts to a rigid accountability.

Nowhere in the legislation is there any justification or excuse for such an extraordinary exaction.

There is another point of view which renders it imperative that this release shall be stricken from the contract as bearing on its effect on possible government ownership. If the companies now agree that the abandonment of operations, the diversion of traffic, and the destruction of goodwill may be perpetrated free from any claim for damages, they will not hereafter be able to contend for these intangibles as elements of value when the time comes, if it does come, for government ownership.

2. Under the contract as it now stands the director general in his uncontrolled discretion may make capital expenditures for war purposes and for road extensions, as well as for additions and betterments, terminals and equipment; may charge the carrier with the cost thereof and the current enormous prices of material and labor; may take this action without consulting the board of directors of the carrier, and without regarding its means of paying therefor; may force the carrier to give up all claims for any "loss" occasioned it as respects such thereof as are made in connection with maintenance, unless the claim is litigated within sixty days after notice of the completion of the work, although it is likely that whether or not a loss will be incurred cannot be known at that time, and although such betterments and additions made at the same time as maintenance constitute perhaps the greater proportion of a railroad's expenditures for this purpose; and may prevent the carrier from claiming any loss because of the abnormal cost which may be incurred by the director general in the making of such betterments and improvements, and subject to all these restrictions gives to the carrier only the problematical benefits of a suit against the government before the Interstate Commerce Commission or in the court of claims before the road can get back the money which was taken from it without its consent or offset the indebtedness which was forced upon it without its approval, to pay for additions and improvements which it did not want.

3. It contains no assurance that interest as heretofore paid will continue to be paid, since in addition to other deductions and expenses which will have to be paid out of the standard return before the companies can pay interest there must be deducted by the government from the compensation the so-called "excess maintenance," which, in the discretion of the director general, may be placed on the property of the carriers, there being in the contract a provision by which the railroad may be excessively maintained (over and above its own standard), and the cost of such excessive maintenance be deducted from the compensation, even though such course should result in defaults in interest.

While the like provision relating to additions and betterments has been so far modified that the standard return cannot be absorbed for the cost of additions and betterments until after sinking fund payments, corporate expenses, and fixed charges have been deducted, no such concession is made with respect to "excess maintenance." The result of this is that the standard return which is supposed to be fixed in the contract in so many dollars and cents, and on which the company was expected to be able to definitely rely as its rental value for the use of its property and out of which it could pay its taxes, fixed charges, dividends and the expenses of maintaining its corporate organization, becomes in many cases worthless and meaningless. No one can foretell what the director general may hereafter regard as proper maintenance, nor when this unknown factor will be determined. Meantime the companies cannot know whether or what part of the standard return belongs to them or to the government.

Some roads cannot afford and could not be operated under the standard of maintenance applicable to others. If a road has been poorly maintained, that condition is reflected in its higher operating costs and lower net operating revenue, which means that the government pays rental by way of standard return for the test period just so much less, and should not be allowed to put upon the property by way of maintenance at the expense of the lessor a greater sum than that on which the net operating increase that is the measure of the rental was based.

4. Interstate Commerce Commission Powers, Sec. 5, Subsection *h*, provides that all disputed questions of upkeep shall be referred to the commission, whose decision should be final except on questions of law. This might place the issue of the financial life or death of the company in the hands of the commission without the right of review. Other provisions of the contract deal in like manner with controversies that may arise.

No want of confidence in the commission is indicated in asking that its conclusions shall at least be subject to the review of a judicial tribunal on questions of fact as well as of law. The United States Circuit Courts of Appeals are suggested as the proper appellate tribunal and the committees are quite willing that its determination shall be final.

5. It contains no assurance that payments of regular dividends heretofore paid will be continued, for, in addition to the expenses and deductions mentioned above with regard to interest, there may also be deducted ahead of dividends all amounts necessary to reimburse the United States for additions and betterments, in uncontrolled amount, which the government officials may place upon the property of the company (other than road extensions and additions and betterments made solely for war purposes). It is true that the contract declares that it will be the policy of the government to permit the payment of regular dividends heretofore paid, if this can be done, and the additions and betterments paid for without resort to the compensation of the carrier, but this is a mere declaration of policy not binding upon the government and is not expected to be followed where a road cannot furnish full security promptly to reimburse the government for the cost of the additions and betterments forced upon it by the director general.

6. It contains no restriction on the amount of additions and betterments (whether for war purposes or road extensions or otherwise) chargeable against the road's funds and corporate property. The amounts so to be expended and charged are left entirely to the uncontrolled discretion of the director general. Expenditures for war purposes and for road extensions may not be subtracted from the compensation, but they are nevertheless to be charged against the other funds of the carrier, or the carrier loaded with in-

Federal Managers and General Managers

E. E. Calvin
Federal Manager, Union Pacific

J. L. Lancaster
Federal Manager, Texas & Pacific

W. C. Bierd
Federal Manager, Chicago & Alton

E. L. Brown
Federal General Manager, Denver & Rio Grande

W. H. Bremner
Federal General Manager, Minneapolis & St. Louis

W. L. Park
Federal General Manager, Chicago Great Western

H. C. May
Federal General Manager, Chicago, Indianapolis & Louisville

W. R. Scott
Federal Manager, Southern Pacific Lines West of El Paso and Ogden and South of Ashland, Ore.; also the Western Pacific

W. B. Storey
Federal Manager, Atchison, Topeka & Santa Fe

debtedness to the United States to pay for the same. The only recourse of the carrier to offset the imposition of these charges for additions and betterments, which it may not want and cannot afford and may be of no benefit to it, is to "claim" a "loss" in litigation against the government where it has the burden of proving the negative proposition that these undesired matters are of no benefit to it.

7. It departs from the provisions of the act and does not assure the reasonable rate of interest contemplated by the act to be fixed by the director general on the costs of additions, betterments and extensions which may be made by or charged to the carrier, but, on the contrary, contains language intended to permit the reduction of such reasonable rate of interest as determined by the value of money, by certain other factors, being certain economic theories, the effect of which would be to cause the carrier to receive no rate of return on part of the amounts invested or, when averaged, a less average rate of interest on the cash used than the carrier will have to pay in borrowing the very funds from the government or from other sources. If this power is so exercised, the carrier will be subject to a continually increasing loss, as the amount of such capital expenditures accumulate, which will go further to reduce each year the net amount available out of the standard return for the payment of its expenses and charges.

These seven sections include the main points, but the letter sets forth other objections to the contract and requests that the objections be taken up with the director general before any decision is reached with respect to the contract.

It is understood that one of the chief points which the railway executives desire to have discussed further is the matter of rentals for leased roads, which they believe should have the same protection which the government has already conceded as to interest on bonds in the provision that the power to deduct the cost of additions and betterments shall not be exercised to prevent the payment of sums required to support the corporate organization, for sinking funds, for interest which has been regularly paid by the company and for interest on loans issued during federal control approved by the director general. Several other important points will also be taken up with the director general if possible.

While the statement issued by the security owners' committee represents a more belligerent attitude than that expressed by the executives, it is understood that some of the points on which further discussion was desired by the executives are included in the objections named by the Warfield committees.

The government has been represented throughout most of the period of the negotiations by Nathan Matthews, special counsel, and several members of the Interstate Commerce Commission, but more recently Walker D. Hines, assistant to the director general; John Barton Payne, general counsel, and R. S. Lovett, director of the division of capital expenditures, have taken a more active part. Both the executives and the security owners apparently have hopes of further concessions at the hands of Mr. McAdoo, on the theory that he has repeatedly expressed his interest in stabilizing railway credit, whereas they consider that the degree of control over the amount paid to the companies as compensation which the representatives of the administration have insisted upon, and the extent to which the so-called standard return could be whittled down by the exercise of the powers conferred upon the government in the tentative draft, would have an entirely contrary effect. The representatives of the government in the negotiations have apparently taken the position that the credit of the railways is of less concern than it otherwise would be for the reason that if the railway companies are unable to finance their requirements the government would have to furnish its own credit, whereas the railways naturally prefer to have their credit maintained sufficiently to obviate the necessity of taking loans from the government and to have it less dependent upon the policy of the administration.

The draft of the contract referred to in the statements issued after the meeting was that of July 5, which was outlined in last week's issue. A later draft was printed on July 10 with some further changes, and it is likely that there will be several others.

The Railroad Administration on July 10 issued a statement by Director General McAdoo saying that there was no basis for reports that the Pennsylvania and Baltimore & Ohio had deferred their regular dividends because the contract had not been signed. The statement quoted statements issued by the two boards at their latest meetings that dividend action had been postponed because the board would not adjourn over the summer months. The statement added: "The Railroad Administration upon showing of reasonable necessity is making advances to railroads on account of just compensation until the contract can be agreed upon and executed. It is my desire and plan to do every reasonable and just thing for railroad security holders pending the execution of the contracts."

Short Lines Apportioned to Regions

The Railroad Administration on July 10 issued circulars distributing among the seven regions 125 of the short line railroads which were retained under federal control at the time a large number of the short line roads were relinquished. These roads in most cases were included in the supplemental list of railroads to which the wage increase order was made applicable, which was published in last week's issue. It also included three roads, the Birmingham & North Western, the Kansas City, Mexico & Orient, and the Mineral Range, which had not been included in the earlier list, indicating that they have since been taken over.

In addition to the railroads named in Circular No. 28, the following railroads are included in the Allegheny Region: Buffalo & Susquehanna; Cherry Tree & Dixonville; Cumberland & Pennsylvania; Huntingdon & Broad Top Mountain; Long Island; Monongahela; Philadelphia Belt Line; Pittsburg, Chartiers & Youghiogheny; Staten Island Rapid Transit; Union Railroad (Pennsylvania), and Washington Terminal.

In addition to the railroads named in Circular No. 30, the following railroad is included in the Pocahontas Region: Ashland Coal & Iron.

In addition to the railroads named in Circular No. 33, the following railroads are included in the Northwestern Region: Baltimore & Ohio Chicago Terminal; Belt Railway of Chicago; Butte, Anaconda & Pacific; Calumet Western; Camas Prairie; Chicago Heights Terminal Transfer; Chicago Junction; Chicago, Milwaukee & Gary; Chicago River & Indiana; Chicago Union Station; Chicago & Western Indiana; Copper Range; Des Moines Union; Des Moines Western; Duluth & Iron Range; Duluth, Missabe & Northern; Duluth, South Shore & Atlantic; Elgin, Joliet & Eastern; Englewood Connecting; Escanaba & Lake Superior; Ft. Dodge, Des Moines & Southern; Green Bay & Western; Indiana Harbor Belt; Iowa Transfer; Lake Superior Terminal & Transfer; Mineral Range; Minneapolis Belt Line; Minneapolis & Eastern; Minnesota Transfer; Ontonagon; Oregon Electric; Pacific Coast; Port Townsend & Puget Sound; St. Charles Air Line; St. Paul Bridge & Terminal; St. Paul Union Depot Co.; Sioux City Terminal; South Chicago & Southern; Stock Yards Terminal of St. Paul; Union Stock Yards Co. of Omaha; Waterloo, Cedar Falls & Northern, and Waupaca-Green Bay.

In addition to the railroads named in Circular No. 34, the following railroads are included in the Central Western Region: Arizona Eastern; Atchison & Eastern Bridge Company; Atchison Union Depot & Railroad Co.; Colorado Springs & Cripple Creek District; Denver Union Terminal;

Evansville & Indianapolis; Kansas City Connecting; Keokuk Union Depot Company; Leavenworth Depot & Railroad Co.; Ogden Union Railroad & Depot Company; Pan Handle & Santa Fe; Peoria & Pekin Union; Pueblo Union Depot & Railroad Co.; Riverside, Rialto & Pacific; Salt Lake City Union Depot & Railroad Co.; Toledo, Peoria & Western, and Wichita Union Terminal. The following railway is transferred from the Southwestern Region to the Central Western Region: Wabash (Lines west of the Mississippi river).

In addition to the railroads named in Circular No. 35, the following railroads are included in the Southwestern Region: Abilene & Southern; Alton & Southern; East St. Louis National Stock Yards Co.; East St. Louis & Suburban; Fort Worth Belt; Fort Worth Union Passenger Station Co.; Galveston, Houston & Henderson; Houston Belt & Terminal; Houston & Brazos Valley; Illinois Terminal; Joplin Union Depot Company; Kansas City, Mexico & Orient; Litchfield & Madison; Missouri & Illinois Bridge & Belt; Oklahoma Belt; St. Joseph Belt; St. Joseph Union Depot Co.; St. Louis & Belleville Electric; St. Louis Merchants Bridge Terminal; St. Louis National Stock Yard Company; St. Louis & O'Fallon; St. Louis, Troy & Eastern; San Antonio, Uvalde & Gulf; Southern Illinois & Missouri Bridge Co.; Terminal Railroad Association of St. Louis; Texas Midland; Trans-Mississippi Terminal; Union Terminal Co. of Dallas; Vicksburg, Shreveport & Pacific; West Tulsa Belt and Wiggins Ferry Company. The following railway is transferred from the Central Western Region to the Southwestern Region: Chicago, Rock Island & Pacific (Tucumcari, N. M., to El Reno, Okla.; south of Herington, Kansas, to Chickasha, Okla., including branches).

The following railroads are added to the Eastern Region: Akron & Barberton Belt; Akron Union Passenger Depot Co.; Boston Terminal Co.; Brooklyn Eastern District Terminal; Buffalo Creek; Central Union Depot of Cincinnati; Dayton & Union; Dayton Union; Detroit, Bay City & Western; Detroit Terminal; Indianapolis Union; Jay Street Terminal (New York); Kentucky & Indiana Terminal; New York Dock Company; Toledo Terminal; Troy Union, and Zanesville Terminal.

The following railroads are added to the Southern Region: Alabama & Vicksburg; Birmingham & Northwestern; Memphis Union Station; Mississippi Central; New Orleans Great Northern, and Winston-Salem Southbound. The following railway is transferred from the Southwestern to the Southern Region: St. Louis-San Francisco (between Memphis and Birmingham).

President Vetoes Short Line Resolution

President Wilson returned to the Senate on July 11 the joint resolution extending the time within which the President may relinquish any railroad from federal control, which he vetoed because of the amendment to prevent the relinquishment of a road unless its competitors and connections were also released. In his veto message the President said:

"I do so because I very respectfully but very earnestly dissent from the policy which it embodies. Under its terms the government would be obliged to assume the control and administration of all short-line railroads without discrimination. I respectfully submit that this is not in the public interest. There are terminal short lines at many centers of freight shipment and some seventeen hundred short lines which were built and are controlled by manufacturing, mining, lumbering and other companies and which are operated merely for the convenience of those companies, which would be included under the language of this resolution, very few of which, it seems to me, if any, ought to be taken over and administered by the government.

"The remaining short roads are feeders to the main trunk lines, and more than mere feeders most of them, for they have in most instances played a very important part in building up the industries of the communities through which they run and have become essential to the prosperity of hundreds of towns and neighborhoods all over the Union. I quite agree that practically all of these should be retained and that they should not only be retained, but that they should be accorded a fair division of joint rates—a fairer division than some of them have been accorded hitherto—an equitable allotment of cars and motive power, and fair routing arrangements. Some of them constitute connecting links between two or more trunk-line systems. Those which play this part in the system of railways ought to be accorded as full a share in through shipments as is consistent with the general interests of the shipper and the public.

"This is the policy which the Railroad Administration will pursue towards these roads. They will not be put at an unfair or ruinous disadvantage. The government owes a recognized obligation to the communities which they serve, but it is not in my judgment wise to oblige the government to deal in the same way with all of them regardless of the very great variety of circumstances which affect their facilities and their administration. I beg that the Congress will leave the government free to enter into arrangements with them which will in each case be to the interest alike of the road dealt with and of the local public."

Rates to Be Changed Without Authority of the Interstate Commerce Commission

Railroads under federal control are not to ask the Interstate Commerce Commission for permission to file tariffs changing rates, fares, charges, etc., applying wholly to carriers under federal control, as provided by the amendment to the fifteenth section of the commerce law adopted last summer, but are to obtain their authority from the Division of Traffic of the Railroad Administration, according to a circular of instructions, Circular No. 1-A, issued by Edward Chambers, director of the division, to traffic committees, railroad and water lines and tariff publishing agents. The circular is dated July 1, but was not issued until several days later. These instructions not only obviate the necessity of securing authority from the commission to increase a rate but do away with the necessity of the 30 days' notice required by Section 6 of the act, leaving the amount of notice to be determined by the traffic division, and the practice in the case of several changes made in rates ordered advanced by General Order No. 28 has been to allow one day's notice. Many withdrawals of applications filed with the commission under the fifteenth section have already been made. Shippers are protesting against these instructions on the ground that it had been expected that the President's power to initiate rates would be exercised only in case of a general advance but not in ordinary cases. The commission still has jurisdiction over joint rates with carriers not under federal control and the power to review rates after they are in effect, while the state commissions still have the field of the short lines not under federal control.

The instructions to obtain authority from Mr. Chambers' division are contained in sections 3 and 4 of the circular, which is as follows:

SECTION 1

(*a*) Your attention is directed to Section 20 of General Order No. 28 as amended reading as follows:

"SECTION 20—The rates, fares and charges to be increased under this order are those existing on May 25, 1918, including changes theretofore published but not then effective and not under suspension, except where the Interstate Commerce Commission prior to May 25, 1918, authorized or prescribed rates, fares and charges which shall have been published after May 25, 1918, and previous to June 15, 1918,

the increases herein prescribed shall apply thereto. Such authorized or prescribed rates, fares and charges not so published shall be subsequently revised when published by applying the increases prescribed herein."

(*b*) When changes are published as authorized by Section 20, the schedule containing such changes shall show as authority therefor (on title page if all changes in the schedule are made under authority of Section 20, otherwise in connection with such portions of the schedule as are published under authority of Section 20), the following:

"Published for the Director General of Railroads under authority of Section 20, General Order No. 28 of the Director General, United States Railroad Administration, dated May 25, 1918, and amended June 12, 1918."

And shall also show reference to any authority or order as required by the Interstate Commerce Commission and shall be made effective upon such notice of filing as may be provided in such authority or order.

SECTION 2

(*a*) Changes in rates, fares, charges, regulations and practices may be made under the standing rules and authorizations contained in the Interstate Commerce Commission's Tariff Circular 18-A and orders (or reissues thereof) as shown below, without further authority:

Rule 10 (*i*) and Fifteenth Section Order No. 250...	Changes in station lists and in lists of restricted and prohibited commodities.
Rule 10 (*j*) and Fifteenth Section Order No. 200...	Changes in dimensions and capacities of cars, etc.
Rule 56.....	Reduction of joint rates or fares to equal sum of intermediate rates or fares.
Rule 77.....	Establishment of commodity rates from and to intermediate points not to exceed those in effect from or to more distant points.
Special Permission No. 44844.....	Establishment of new through routes and terminal deliveries.

(*b*) When changes are published as authorized in this section the schedule containing such changes shall show as authority therefor (on title page if all changes in the schedule are made under authority of this section, otherwise in connection with such portions of the schedule as are published under authority of this section), the following:

"Published for the Director General of Railroads under authority of Section 2 of Circular No. 1-A of the Director, Division of Traffic, United States Railroad Administration, dated July 1, 1918."

And shall show also reference to any rule or authority as required by the Interstate Commerce Commission and shall be made effective upon such notice of filing as may be provided in such rule or authority.

SECTION 3

(*a*) Except as provided in Sections 1 and 2 of this circular, no changes shall be made in any freight, passenger or baggage rates, fares, charges, classifications, regulations or practices of the carriers under federal control, including those applying jointly with carriers not under federal control, published in schedules filed with the Interstate Commerce Commission or with State Commissions, except as shall have been authorized by me in an appropriate "Freight Rate Authority," or "Passenger Fare Authority."

(*b*) When changes are published under authority of such "Freight Rate Authority" or "Passenger Fare Authority" the schedule containing said changes shall show as authority therefor (on the title page if all changes in the schedule are made under the same authority, otherwise in connection with such portions of the schedule as are made under each authority), the following:

"Published for the Director General of Railroads and filed on..... days' notice with the Interstate Commerce Commission under *Freight Rate Authority No. ..... of the Director, Division of Traffic, United States Railroad Administration, dated....., 19...."

SECTION 4

(*a*) As no authority other than as required by this circular is necessary to change rates, fares, charges, classifications, regulations or practices applying wholly on carriers under federal control, no application should be made to the Interstate Commerce Commission or to any state commission for authority to advance or modify rates, fares, charges, classifications, regulations or practices applying wholly on such carriers, nor for authority to publish changes therein on short notice, and any such applications made heretofore should be withdrawn. Applications covering rates, fares, charges, classifications, regulations or practices applying *jointly to carriers under federal control and those not under such control* should not be withdrawn.

(*b*) After the necessary "Freight Rate Authority" or "Passenger Fare Authority" as required in paragraph (*a*) of Section 3 of this circular has been secured, applications should be made as required by law or by the rules of the Interstate Commerce Commission or state commissions for authority to advance, modify or publish on short notice changes in rates, fares, charges, classifications, regulations or practices applying *jointly to carriers under federal control and those not under such control,* and the schedules containing such joint rates, fares, charges, etc., shall show reference to the authority granted by the commission as well as to the "Freight Rate Authority" or "Passenger Fare Authority."

SECTION 5

All schedules hereafter published and filed with the Interstate Commerce Commission containing rates, fares, charges, classifications, regulations or practices of the carriers under federal control, including those applying jointly with carriers not under federal control, shall show clearly that they are the schedules of the United States Railroad Administration by having printed on the title page thereof in large type the words:

"UNITED STATES RAILROAD ADMINISTRATION,
W. G. McAdoo, Director General of Railroads."

SECTION 6

Until further advised all proposed changes in rates, fares, charges, etc., as named in paragraph *a* of Section 3 of this circular shall be referred to the proper Freight or Passenger Traffic Committee for the Eastern, Southern or Western Territory (through or by the appropriate District Freight Traffic Committee, if on freight traffic) and passed by it to me for "Freight Rate Authority" or "Passenger Fare Authority" where such is desired.

The Interstate Commerce Commission has announced that it will hear arguments on July 24 on the question as to whether the justness and reasonableness of rates, fares, charges, classifications, regulations and practices initiated by the director general under the authority of the federal control act must be determined upon original complaints and new proceedings or whether such issues may be properly raised by amendment to pending complaints wherein the rates, fares, etc., superseded by those initiated by the director general are assailed. This question has been raised by the filing of several petitions in which complainants ask leave

*Use "Passenger Fare Authority" on schedules covering passenger traffic.

to amend their complaints to include the director general as a party defendant and to include allegations concerning rates initiated through the director general.

Bonds for Transportation Charges

The Division of Public Service & Accounting has issued in P. S. & A. Circular No. 16 instructions as to bonds to be required in connection with the extension of credit for transportation charges, as prescribed in paragraph 2 of General Order No. 25, in part as follows:

It should be carefully noted that the giving of a bond will only be permitted or required in certain cases. It is not open to the shipper or consignee to obtain credit by the mere giving of a bond; the cash rule, as explained in P. S. & A. Circular No. 9, must be observed unless the circumstances of each case are such that this cannot properly be done. All bonds given for credit accommodations shall be taken in the name of W. G. McAdoo, Director General of Railroads, ...(Name of railroad).

Bonds covering the extension of credit will be of two classes, i. e.:

To cover patrons transacting business at one or more points with one carrier: In such cases, applications for credit accommodations shall be filed with an agent of the carrier from which the credit is desired. If, in the judgment of the treasurer, credit should be granted, he shall prepare a bond to cover the maximum credit desired and proceed to have it executed. When executed, he shall authorize the agent or agents at the stations at which the accommodation is desired to extend credit to the extent of the amount applicable to each station. Treasurers shall be the custodians of such bonds.

To cover patrons transacting business at one point with two or more carriers: In such cases applications for credit may be filed with an agent of either of such carriers. He shall proceed to obtain the joint recommendations of the agent of each carrier interested, after which the application with such recommendations shall be transmitted to the treasurer of the carrier with which the application was originally filed. Such treasurer shall thereupon act as provided in paragraph (1) hereof, and if the accommodation be granted or declined, he shall immediately notify the treasurer of each interested carrier of such action. If the accommodation be granted, treasurers of each individual carrier interested shall, upon receipt of notice thereof, authorize their respective agents to extend the credit.

Failure to pay for transportation service within the prescribed credit period shall, as prescribed in General Order No. 25, automatically cancel the accommodation.

In the event of default in payment of transportation charges within the credit period, and unless settlement is promptly made thereafter, the treasurer having jurisdiction shall take immediate steps to realize upon the bonds applicable.

Premiums on all bonds taken under the provisions of General Order No. 25, and all expenses incident thereto, shall be borne by the applicant to whom the accommodation is granted.

It is realized that the instructions contained in this circular do not cover the many contingencies that may arise in connection with these credit matters, and agents and treasurers are therefore expected and are hereby directed to take whatever steps in their judgment may be necessary to properly and adequately protect the interests of the director general and to prevent money losses.

Progress Reports on Capital Expenditures

Judge R. S. Lovett, director, division of capital expenditures, is about to employ two or more engineers experienced in railroad improvement work for the purpose of giving quick and direct information of the commencement and progress of the more important work authorized by him. These engineers will have no titles and no authority to give or change instructions or even to offer suggestions; their duty will be only to ascertain the facts and report them to him, and any suggestions that they may think advisable to make will be made only to him. They will be instructed to send to the regional director simultaneously a copy of every report they make. They will bear credentials in the form of a letter signed by Judge Lovett.

The engineers will be given memoranda of the more important projects on each line, giving preferred attention to those relatively more urgent, and their instructions will be to go to the headquarters of the line and get such information as may be there available from the engineering or other office having supervision of the work, as to the progress of the work, and then follow up by trips over the line to the scene of the work. This will in no wise affect or relieve the roads of the supervision of the work or of making such reports or recommendations from time to time in regard thereto as may be advisable, but the plan is intended only to supplement, solely for the information of the division, the measures the roads take; and it is hoped that the copies sent to the roads of the reports to Judge Lovett may prove useful to the roads in many cases.

Federal and general managers have been requested to instruct all concerned to afford to these engineers representing the division of capital expenditures, every facility for securing the information and data that they may desire and to enable them to inspect the improvement work in progress on the railroads under their jurisdiction.

Passenger Trains on Time

Daily reports are sent to Director General McAdoo's office by the regional directors as to the regularity of the passenger trains arriving at the principal terminals throughout the country. For a long time these reports have shown marked improvement over the conditions prevailing earlier in the year and recently almost all of the principal trains have been reported regularly on time from day to day. Where trains are late a report is given as to the reason for the delay.

Insurance Section Organized

The Railroad Administration has announced the organization of a new section, under the supervision of the director of finance and purchases, to be known as the Section of Insurance and Fire Protection. As heretofore announced, it will be the general policy of the Railroad Administration to do away with the fire insurance policies heretofore carried, and to have the government itself stand directly responsible to the railroads for fire losses of property in government possession. This section will therefore deal primarily with the prevention of fires through rigid and intelligent inspection, and by insisting upon the observance of rules and regulations intended to prevent the unnecessary destruction of property by fire.

The Insurance Section will have the benefit of the assistance of an advisory committee of men experienced and skilled in the business of fire insurance whose names will hereafter be announced. Charles N. Rambo, of Philadelphia, superintendent and secretary of the Mutual Fire, Marine & Inland Insurance Company, has been selected as manager of the section, and will resign from his present position. Mr. Rambo brings to his work 20 years of experience in the insurance business, and for the past 15 years has devoted his energies to the Mutual Fire, Marine & Inland Insurance Company, which was organized by and in the interest of the railroad companies for the purpose of mutual insurance and of reducing fire insurance costs and premiums.

The Insurance Section will provide a force of skilled inspectors in each region whose duty it will be to see that the rules and regulations intended to reduce fire losses are rig-

idly observed. The insurance inspectors now employed by the various railroads will be utilized as far as desirable. This section will also have general charge of the adjustment of fire losses.

Property Protection Section Active Against Freight Thieves

The Section for the Protection of Railroad Property, which was organized by the Railroad Administration in the Division of Law on March 26 to enforce the laws against theft from cars, stations, sidings and wharves and to take all necessary measures in co-operation with carriers to prevent loss from this cause, has already in the three months of its existence displayed such great activity in its campaign against pilferage that the Department of Justice is complaining that its district attorneys are being overloaded with work.

The organization of the section is under the direction of Philip J. Doherty as manager and includes an assistant manager, five attorneys and five inspectors. In addition, the chief special agents of the railroad companies have been organized for co-operative work with the section and most active assistance has been rendered by the railroad organizations by every means within their power. Indictments have already been obtained against more than 250 individuals in the United States courts alone and approximately as many more in the state courts. One of the attorneys for the section prepared cases and drafted indictments returned by the grand jury at Toledo against 89 individuals. The section has taken advantage of the fact that all property being transported by the railroads is now in the custody of the United States and that a very large proportion of it consists of supplies of various kinds necessary directly or indirectly for the prosecution of the war to make greater use of the machinery of the federal government organization than has been possible in the past. As a result of the work already a number of important roads have reported an improvement as great as 50 per cent.

At the direction of Mr. Doherty, R. S. Mitchell, chief special agent of the Missouri Pacific, organized all the special agents of the railroad carriers entering St. Louis for co-operative effort, and the result has been the return of more than 50 indictments by the grand jury in the United States court there and the recovery of property to a large value, including $50,000 worth of rubber tires in one seizure. This organization also extended its operations to East St. Louis—one of the worst spots for car tampering in the country. A large number of prosecutions have begun in the southern district of Illinois as the result of the crusade instituted. The result of these efforts at St. Louis is a marked improvement in conditions at those points.

Similar organizations of special agents for co-operative work were instituted at Omaha, Kansas City, Nashville, New Orleans, Cincinnati, Buffalo, Boston, Norfolk and Chicago.

Mississippi and Warrior River Transportation to Be Developed

The much discussed question of developing a system of transportation on the inland waterways provided by the Mississippi and Black Warrior rivers has been settled by Director General McAdoo through the appointment of M. J. Sanders of New Orleans as federal manager of the Mississippi and Warrior waterways. The director general has received full reports on this subject from the Committee on Inland Waterways, from the Western and Southern regional directors and from Director Prouty and Interstate Commerce Commissioner Meyer, all of whom have investigated the matter at his request.

Mr. Sanders will have general direction of the development of the necessary facilities and the construction of requisite barges, tugs, etc., that will be used on the Mississippi river south of St. Louis and on the Black Warrior river route between the Birmingham district in North Alabama and Mobile and New Orleans; the latter city being reached via the Black Warrior river, Mobile Bay, the Gulf of Mexico and Lakes Borgne or Pontchartrain with their connecting canals. Mr. Sanders has been manager of the Leyland Steamship Lines for the ports of New Orleans, Mobile and Pensacola for the last 30 years and has had extensive business connections with all the railroads serving the Gulf ports as well as with the existing river transportation service. In March last he became a member of the Inland Waterways Committee, appointed by the director general to "make a prompt investigation and report as soon as practicable a definite plan describing the extent and the manner in which additional use may be made of the internal waterways for the economical and expeditious movement of traffic of the country, so as to relieve or supplement the railways under existing war conditions."

Mr. Sanders strongly believes that the time has come when the enormous expenditures of the government in the development and improvement of the Mississippi and the Black Warrior rivers should be made to yield some return through the application of progressive methods, modernized facilities, equitable freight rates, and fair differentials, and that the pressure upon the railway facilities of the nation will be sensibly reduced by the adoption of such a policy. He will have the opportunity in the position to which he has been appointed to make a thorough-going test of the possibilities of these waterways under favorable conditions.

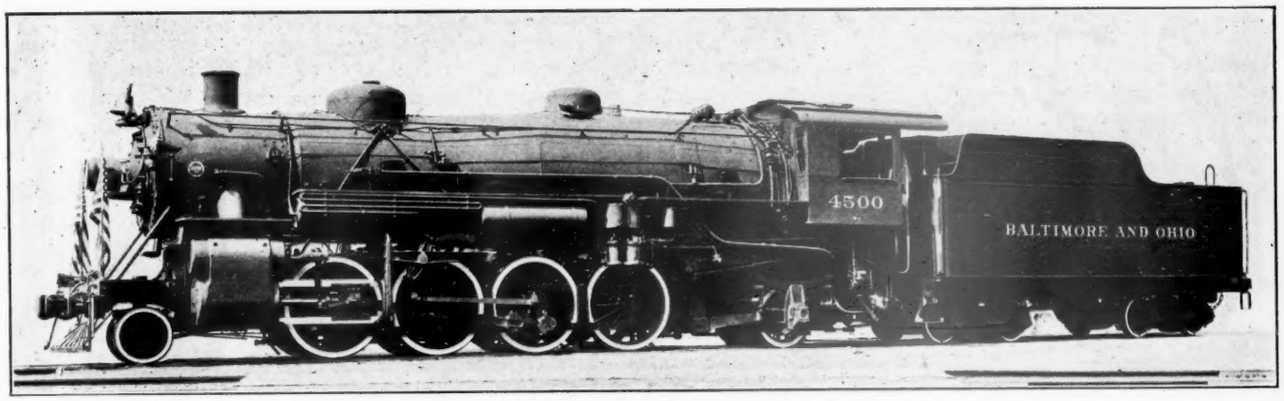
Delaware & Raritan Canal Taken Over

In General Order No. 33 Director General McAdoo announced that G. A. Tomlinson, general manager of the New York Canal Section of the Railroad Administration, is appointed Federal Manager of New York and New Jersey canals, and as such will perform the functions heretofore performed by him as general manager of New York Canal Section and in addition will operate for the director general upon the Delaware & Raritan canal and connecting waters such equipment as the Railroad Administration now has in its possession and control engaged in such operation and such additional equipment as may be assigned for that purpose. He is authorized to enforce and collect such toll charges as are or may hereafter be established for the use of the Delaware & Raritan canal by boats operated by others and empowered to enter into contracts, either in his own name as federal manager or in the name of the director general of railroads, for the purchase of supplies needed in operation and for the transportation of property upon the canal and other waters.

Unclaimed Freight to Be Sold

General Order No. 34 provides that carriers subject to federal control shall sell at public auction to the highest bidder, without advertisement, carload and less than carload non-perishable freight that has been refused or is unclaimed by consignee and has been on hand for a period of 60 days.

The consignee, as described in the waybilling, shall be given due notice by mail of the proposed sale. Perishable freight shall be sold whenever in the judgment of the agent or other representative of the carrier it is necessary to do so, such reasonable effort being made to notify the consignee as described in the waybilling as the circumstances will permit. The place of sale of both non-perishable and perishable freight shall be determined by the carrier. The net proceeds, if any, after deducting freight and other legitimate expenses, will be paid over to the owner on proof of ownership.



First Standard Locomotive to Be Completed for the Railroad Administration

First of the U. S. Standard Locomotives Completed

Light Mikado Type Built by the Baldwin Locomotive Works; Now in Service on the Baltimore & Ohio

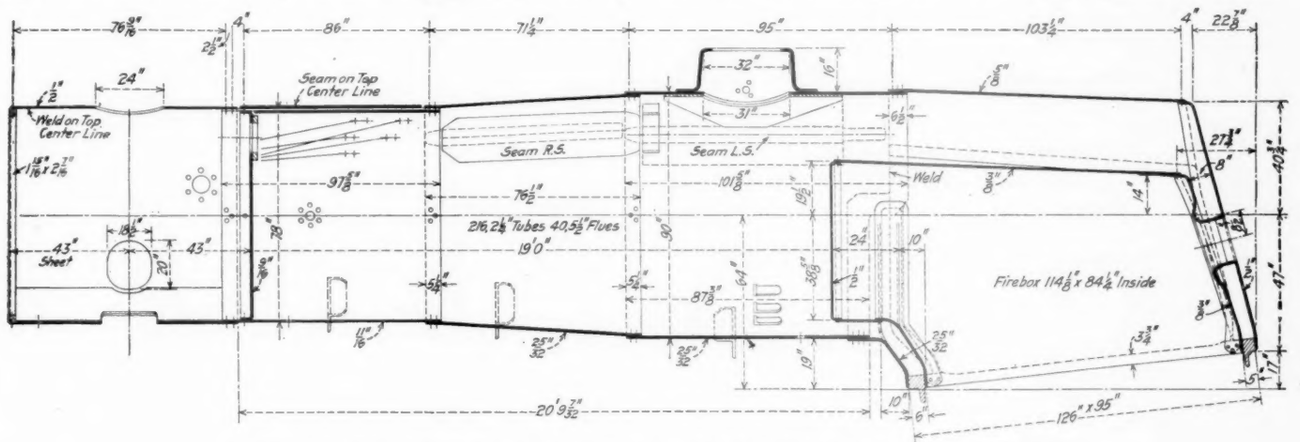
THE FIRST LOCOMOTIVE of the Railroad Administration's order of standard locomotives placed with the builders on April 30, was completed on July 1, by the Baldwin Locomotive Works. This locomotive is of the light Mikado type, the specifications for which call for 55,000-lb. driving axle loads, and has been placed in service on the Baltimore & Ohio.

The orders for standard locomotives first placed by the Railroad Administration totaled 1,025. Later orders for 390 locomotives brought the total up to 1,415, of which 575 are light Mikados. This is by far the largest number of any type ordered; the next largest group is the heavy Mikado type, of which 157 are to be built.

The design of the light Mikado type locomotive is straightforward throughout, with nothing of an unusual nature either in the general design or the details of construction. The locomotive has a total weight of 290,800 lb., of which 221,500 lb. are on the drivers, and it exerts a starting tractive effort of 54,600 lb.

The boiler is of the conical wagon top type, 78 in. in diameter over the first course and increasing to 90 in. in outside diameter at the dome course. The longitudinal seam of the dome course is on the left hand side of the center line, and the reinforcing pad on the inside of the shell under the dome is extended to form the inside welt strip of this seam. The longitudinal seams of the conical and front courses are at the right and on the top center line of the boiler, respectively. These seams are all welded at the ends.

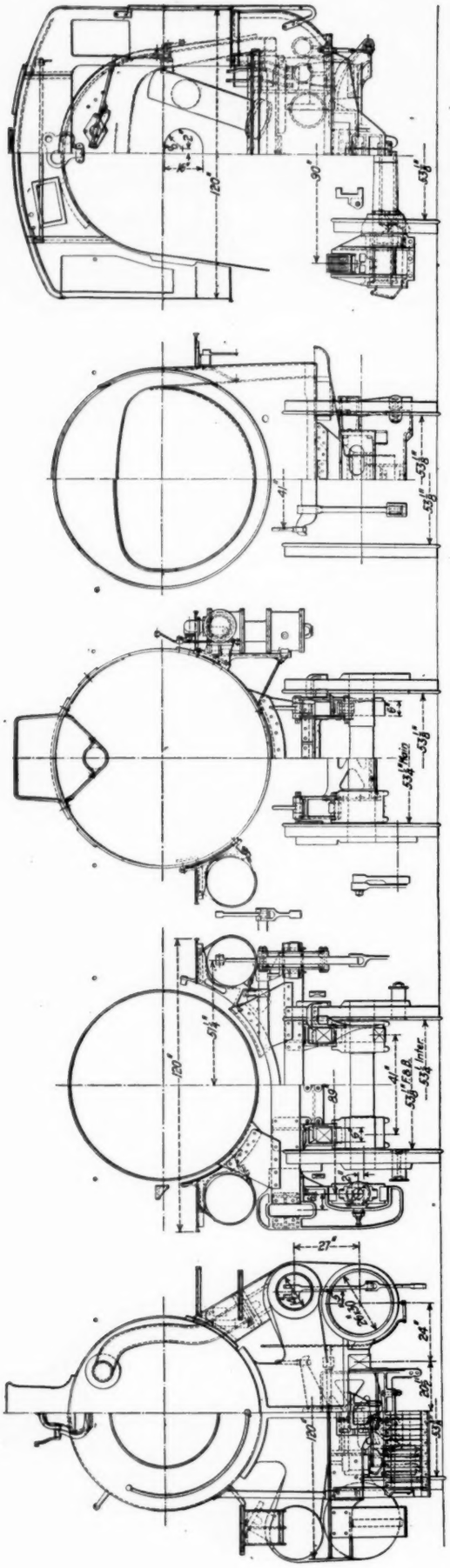
On the basis of Cole's ratios, the boiler capacity rating is practically 96 per cent of the cylinder requirements in respect to the heating surfaces, and slightly over 100 per cent in respect to the grate area. The tubes are 2¼ in. in diameter and 19 ft. long over the tube sheet, the ratio of the diameter to the length of tubes being about one to 100. The firebox includes a combustion chamber 24 in. long and is fitted with a Security arch. The boiler includes a 40-unit Schmidt top-header superheater with 5½-in. superheater flues, and is fired by a Duplex stoker. It is fitted with a Shoemaker fire-door.

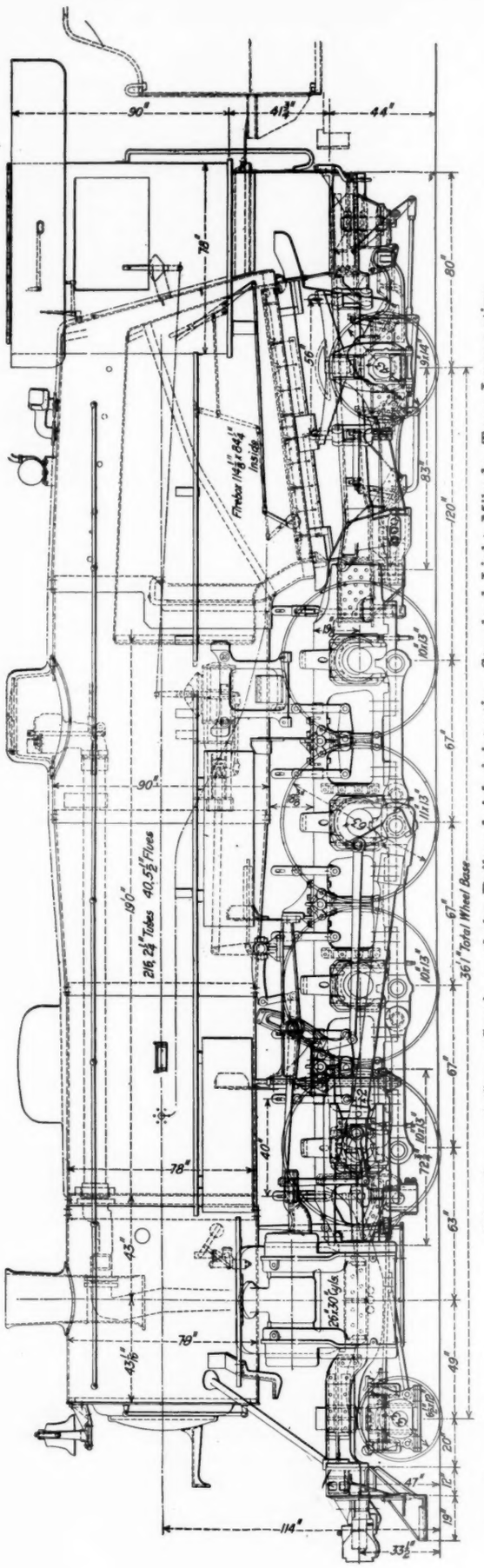


Boiler of the Railroad Administration Standard Light Mikado Type Locomotive

The ash pan has three center hoppers with swinging drop bottoms. The opening under the mud ring is 5½ in. wide. The grates are operated by a Franklin grate shaker.

The frames are of cast steel, 6 in. wide, with a single integral front rail. The top rail is 6⅝ in. deep over the pedestal and is 5⅝ in. deep at the smallest section. The depth of the lower rails at the smallest section is 4 in. The taper of the pedestal jaws and binder lugs is one in twelve. The front rail under the cylinders is 9⅞ in. deep and the section is reduced to 3½ in. wide by 10 in. deep where the front deck plate is attached. The trailer frames are cast in



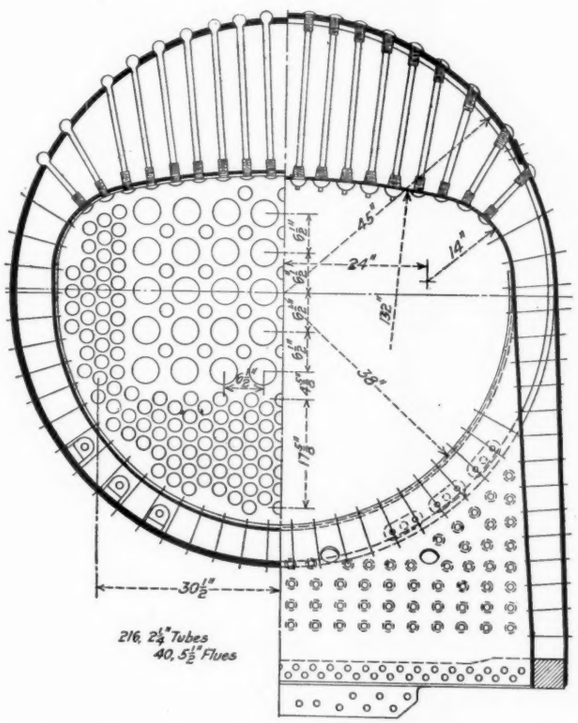


Elevation and Cross Sections of the Railroad Administration Standard Light Mikado Type Locomotive

one piece with the trailer fulcrum pin bracket, the equalizer brackets and the rear deck plate. This casting is attached to the main frames with fourteen 1¼-in. bolts on each side. The pedestal binders are of the usual type, each held in place by four 1½-in. bolts.

Vertical cast steel frame cross-ties are applied to the front legs of the forward driving-wheel pedestals and to the rear legs of the second and third pedestals. The forward brace includes an extension at the bottom, which is bolted to the lower frame rails just behind the cylinders. This carries the pivot for the front engine truck and the driving brake lever fulcrums. The top rails are further secured by cast-steel deck braces, which extend across the frames between the first and second, and the third and fourth pairs of driving wheels.

The cylinders and valve chambers are fitted with gun-iron bushings. The pistons are steel of single plate dished section. The piston valves are of the built-up type, with a cast-iron body, fitted with gun-iron bull rings and packing rings and cast-steel followers. King type packing is used



Sections Through the Firebox and Combustion Chamber

in the piston rod and valve stem glands. The crossheads have cast-steel bodies, to which are bolted Hunt-Spiller gun-iron wearing shoes. Steam distribution is controlled by the Walschaert valve gear, to which is fitted a Ragonnet power reverse gear.

Cast-steel driving boxes, fitted with Elvin grease cellars, are used throughout, all having journal bearings 13 in. in length. The journals on the main axle are 11 in. in diameter, while the others are 10 in. in diameter. The driving wheels are fitted with brass hub liners.

The leading truck is of the Economy constant resistance type and the Hodges trailing truck is used.

The tender has a Commonwealth steel frame. The frame casting includes the front drawbar pocket and the rear draft sills, as well as the truck center plates. The tank is of the usual type of construction, the corners being formed by 2½-in. by 2½-in. angles. The bottom and top plates are 5/16 in. in thickness, while the sides and ends are ¼ in. thick. The tank manhole is 18 in. wide by 8 ft. in length across the tank. This great length materially facilitates spotting of the locomotive at water plugs.

The tender is carried on four-wheel trucks with cast-steel side frames and bolsters fitted with elliptic springs. The wheels are rolled steel, 33 ins. in diameter and are mounted on axles having 6-in. by 11-in. journals.

The specialties include Everlasting blow-off valves, 2-in. Consolidated safety valves, Ashcroft gages, 1¼-in. Barco blower valve fitting, Nathan non-lifting injectors, Franklin ball joints and Radial buffer and Unit safety bar between the engine and tender.

The principal data and dimensions follow:

General Data

Gage	4 ft. 8½ in.
Service	Freight
Fuel	Bit. coal
Tractive effort	54,600 lb.
Weight in working order	290,800 lb.
Weight on drivers	221,500 lb.
Weight on leading truck	20,200 lb.
Weight on trailing truck	49,100 lb.
Weight of engine and tender in working order, approx.	462,800 lb.
Wheel base, driving	16 ft. 9 in.
Wheel base, total	36 ft. 1 in.
Wheel base, engine and tender	71 ft. 4½ in.

Ratios

Weight on drivers ÷ tractive effort	4.0
Total weight ÷ tractive effort	5.3
Tractive effort × diam. drivers ÷ equivalent heating surface*	730.9
Equivalent heating surface* ÷ grate area	70.6
Firebox heating surface ÷ equivalent heating surface,* per cent	6.1
Weight on drivers ÷ equivalent heating surface*	47.0
Total weight ÷ equivalent heating surface*	61.8
Volume both cylinders	18.4 cu. ft.
Equivalent heating surface* ÷ vol. cylinders	255.3
Grate area ÷ vol. cylinders	3.6

Cylinders

Kind	Simple
Diameter and stroke	26 in. by 30 in.

Valves

Kind	Piston
Diameter	14 in.
Greatest travel	7 in.
Steam lap	1⅛ in.
Exhaust clearance	0 in.
Lead	3/16 in.

Wheels

Driving, diameter over tires	63 in.
Driving, thickness of tires	3½ in.
Driving journals, main, diameter and length	11 in. by 13 in.
Driving journals, others, diameter and length	10 in. by 13 in.
Engine truck wheels, diameter	33 in.
Engine truck, journals	6½ in. by 12 in.
Trailing truck wheels, diameter	43 in.
Trailing truck, journals	9 in. by 14 in.

Boiler

Style	Conical wagon-top
Working pressure	200 lb. per sq. in.
Outside diameter of first ring	78 in.
Firebox, length and width	114⅛ in. by 84¼ in.
Firebox plates, thickness	Tube, ½ in.; crown, sides and back, ⅜ in.
Firebox, water space	Front, 6 in.; sides and back, 5 in.
Tubes, number and outside diameter	216—2¼ in.
Flues, number and outside diameter	40—5½ in.
Tubes and flues, length	19 ft.
Heating surface, tubes and flues	3,497 sq. ft.
Heating surface, firebox, including arch tubes	286 sq. ft.
Heating surface, total	3,783 sq. ft.
Superheater heating surface	882 sq. ft.
Equivalent heating surface*	4,706 sq. ft.
Grate area	66.7 sq. ft.

Tender

Tank	Water bottom
Frame	Cast steel
Weight, approximate	172,000 lb.
Wheels, diameter	33 in.
Journals, diameter and length	6 in. by 11 in.
Water capacity	10,000 gal.
Coal capacity	16 tons

*Equivalent heating surface = total evaporative heating surface + 1.5 times the superheating surface.

PLAN AIR MAIL FOR SPAIN.—Establishment of an airplane service between Madrid, Barcelona and the Balearic Islands is proposed by a newly formed company which has made application for official authorization to the Ministry of Public Works. The company proposes to first start a mail service and eventually carry passengers. One trip from Madrid to the islands would consume four hours. The company proposes also to establish other airplane routes between Madrid and points in the north of Spain. It asks no subsidy, but merely wants landing places and the right to put stamps on the mail carried.

The Nashville Collision

THE NUMBER OF PERSONS killed and injured in the disastrous butting collision near Harding, Tenn., seven miles west of Nashville, on July 9, (reported in the *Railway Age* of July 12, page 79) was 180 or more; 88 passengers and 4 employees killed or fatally injured; and 86 or more passengers and two employees injured.

The wreck took fire at once and two coaches of the eastbound train, No. 1, were burnt up. Six coaches altogether were demolished. Some of the cars were crowded, with passengers standing in the aisles, which fact partly explains the great number of deaths. Not until about two hours after the occurrence of the collision were all of the injured persons rescued from the wreck.

The train at fault, westbound passenger No. 4, was in charge of Conductor Eubanks and Engineman Kennedy. The conductor was slightly injured while the engineman and fireman were killed. The completeness of the wreck of the locomotives and of six cars indicates that both trains came to the point of collision at full speed.

General Manager W. P. Bruce issued a statement on July 10, in which he said:

"Westbound train No. 4 left Nashville at 7:05 a. m. and passed Shops Junction (about 2½ miles) at 7:15 a. m. Eastbound train No. 1 which was the ruling train was running about thirty minutes late. The accident was caused by the train crew of No. 4 overlooking train No. 1, a train of superior right, when it (No. 4) left the Shops Junction without ascertaining whether train No. 1 had arrived there, and without orders to go beyond the Shops as against No. 1.

"When No. 4 and No. 1 are on time they meet on the double track between Nashville and the Shops tower. No. 1 was not late enough to justify the despatcher in moving No. 4 to Harding, seven miles from the union station. It was the intention of the despatcher to let No. 4 remain at Shops Junction for No. 1; and, in order that the crew on No. 4 might identify No. 1, the crew of No. 4 was advised by the despatcher of the number of the engine drawing No. 1.

"I understand that Engineer Kennedy and Conductor Eubanks of No. 4 were regarded as the best and most reliable men in the service of the road, and therefore I am unable to account for their overlooking No. 1."

According to the Nashville Banner, the men in charge of train No. 4 had an order to meet No. 7 (a passenger train following No. 1), at Harding station; and on this same order was the identification number of the engine on No. 1, placed there to prevent any error in identifying the train. There are interlocked signals at Shops Junction but they give no right to the road except over the junction switch.

The Banner calls attention to the fact that under the railroad administration act the entire earnings of a railroad are paid over to the United States government so that the financial burden of the wreck falls upon the United States. All legal actions resulting from the wreck will be brought against the Nashville, Chattanooga & St. Louis, though the payment on any recoveries must be made by the government.

The locomotives, while badly damaged, are not beyond repair. There will be heavy bills for loss of baggage and express, but the mail carried on the trains was damaged only by water and steam from the boilers of the overturned engines.

W. L. Mapother, federal manager of the road, issued a statement saying that "regardless of individual responsibility, the legal liability of the United States Railroad Administration for injury to, and death of passengers, and of the employees not responsible for the collision, is fixed by the laws of the State of Tennessee and the acts of congress. It is the purpose of the administration to settle all these claims as promptly as possible without litigation. No question of legal liability requiring a decision of courts can arise. The sole question is to arrive at an equitable amount. All persons having just claims are, therefore, invited to confer with the law department at Nashville to the end that all matters in controversy may be compromised and settled as promptly as circumstances may permit."

At the inquiry held on July 12, at Nashville, conducted by representatives of the Interstate Commerce Commission, G. R. Loyall, assistant to the regional director of Southern Railways, and officers of the road, further facts were given by the train despatcher, the trainmen of No. 4 and T. J. Riggles, a conductor who, evidently, runs No. 4 on alternate days.

J. P. Eubanks, conductor of No. 4 on the day of the disaster, 56 years old and conductor on this train for the past two years, said that he received an order, Form 19, directing him to meet train No. 7 at Harding, and giving the number of the engine on train No. 1. Both Eubanks and Engineman Kennedy read the order. The conductor read it to the porter and delivered the order to the flagman. He then began taking up tickets and depended upon the engineman, the flagman, the fireman and the porter to see that they met No. 1 before passing off the double track. While collecting tickets he noticed that some train was met before reaching the Shops but did not identify it. It was his common practice to rely on the members of his crew to identify No. 1. He had remarked to Kennedy "No. 1 must be running late this morning." The porter has run with Eubanks for the past year. The flagman, C. St. Clair, was on his first trip with Eubanks. The flagman should have been on the rear end of the train while passing through the yards, but the conductor could not testify whether or not he actually was there. Eubanks knew that the movements of yard engines between the terminal and the end of double track were frequent.

C. D. Phillips, despatcher, testified that meeting orders were frequently given to train No. 4 at Nashville, and that giving the number of an engine, as was done in this case in relation to train No. 1, was customary. The operator at the Shops had informed the despatcher as soon as it was seen that No. 4 was passing.

Flagman St. Clair of No. 4 has been in the service only since June 15, 1918. He did not know that No. 4 and No. 1 were scheduled to meet on the double track between Nashville and the Shops. He said that the conductor had not delivered the train order to him until they had passed a half mile beyond the Shops. He did not know where No. 4 was to meet No. 1. Asked if he heard the whistle sounded at the Shops signal tower, or had heard locomotive whistles signaling to his train, he replied in the negative. When he was called to serve on train No. 4, he was surprised, as he considered himself "practically a green man."

W. G. Templeton, superintendent, described his practice in employing trainmen. St. Clair, a freight man, was assigned to No. 4 after the extra passenger list was exhausted. There has been such scarcity of trainmen that it has been often necessary to delay departure of trains until extra men could be called.

Conductor Riggles said that when running on No. 4 he had customarily received orders giving the meeting place with No. 7 and also giving the identification number of the engine of No. 1. According to his testimony, as reported in the Nashville Banner, his practice, as to taking fares and depending on the other trainmen to identify No. 1, appears to have been the same as that of Conductor Eubanks. Riggles, on the day before the collision, had waited for No. 1 at the Shops about 15 minutes.

The testimony of different trainmen seems to indicate that at the moment of collision the westbound train was running at 40 miles an hour or faster, and the eastbound at 55 or 60 miles an hour. None of the witnesses had felt the application of the brakes before the impact.

Orders of Regional Directors*

REPORTS ON SALARIES ASKED.—It is desired that all salaries of $3,000 or over, in the organization of the district director, the federal managers and the respective railroads, shall be submitted to the regional director for approval before being regarded as final.

Regional directors have asked the roads for statements showing separately, salaries $3,000 to $5,000 per annum and $5,000 and over per annum, with information as to the duties of each office. The circulars state that the director general wishes to eliminate all unnecessary positions on the various railroads. Each of them in the past has maintained an organization for its purposes larger than is necessary under unified control. Particular reference is made to the traffic and accounting departments. The functions to be performed by traffic departments under federal control are far more restricted than under private management, and there will rarely be any justification for paying traffic officers the large salaries which were frequently properly paid under private management. While it is not desired to take any unnecessary, harsh or drastic action, the salaries paid members of traffic departments should be commensurate with the substantially restricted duties which it will be necessary for the traffic men to perform under federal control.

In the revision of any particular department, such as operating, purchases, traffic, accounting or law, should any case arise where the roads are not entirely clear as to what action should be taken, the matter should be submitted to the regional director for decision. It is not desired that definite action be taken in accordance with the recommendations for proposed force and salaries until after the regional directors have had opportunity to review the whole matter.

The Southern regional director has directed the railroads in his territory to arrange so that in future his office will be furnished by wire with a brief report of serious passenger train accidents involving casualties.

Loss of Food Through Death of Live Stock in Transit.—Circular letter No. 306, issued by the southern regional director, calls attention to statistics compiled by the Food Administration showing that comparing the three months, December, 1916, to February, 1917, with the three months, December, 1917, to February, 1918, the ratio of dead and crippled to total received at 17 principal stock yards shows an increase in the case of cattle of 22.6 per cent, in the case of hogs of 49 per cent, and in the case of sheep of 71 per cent. Attention is called to the various causes and the necessity for the greatest possible reform.

Rental of Locomotives.—To avoid disputes as to payment of rental for United States locomotives when transferred from one railroad to another, the following rule will govern: "All mechanical delay at the point of delivery, i. e., the necessary delay in making the locomotive ready for service, will be charged to the delivering road. All delay at such points after the locomotive is made ready for service will be charged to the receiving road."

The Practice of Assigning Cars for Railroad Fuel Loading at All Bituminous Coal Mines Served Must Be Abolished.—The United States Fuel Administration is advised of these instructions, which are now uniform in the entire country, and through its district representatives in the coal producing districts affected, will see that carriers who obtain fuel from such districts secure an adequate current supply of substantially like quality of coal as has heretofore been furnished, unless vital war necessities make this impossible. In the latter event the Fuel Administration will handle with the Railroad Administration in Washington and the Purchasing Committee there will deal with the individual railroads on the subject as may be necessary. Should this order result in depleting the essential coal supply on any road, the regional director and the Car Service Section at Washington should immediately be advised by wire. Coal producing roads cancelling assigned car orders in accordance with above instructions should at once wire foreign lines obtaining fuel from mines on their road so that such foreign lines will be conversant with the change in the method of car distribution.

Hogs in Carload Lots.—In circular letter No. 319 issued by the Southern regional director, the railroads are asked to have printed and as promptly as possible brought to the attention of those interested in the handling of live stock a placard to be posted in prominent places at all freight depots where shipments of hogs are made in carload lots, giving suggestions as to the proper methods of loading live stock to prevent loss and damage, and also a circular letter to be mailed to all shippers of live stock or handed to individual shippers at the time order is placed for cars, explaining that the gigantic loss of dead and crippled animals in shipping is largely due to over-loading and improper loading; and giving instructions as to proper methods.

Eight-Hour Day for Yardmaster.—The Division of Labor now has under consideration the question of applying the basic 8-hour day to yardmasters and others.

Car Repair Shops.—In circular No. 20, dated July 13, B. F. Bush, regional director of the Southwestern region, called attention to the fact that some roads are working their car repair shops less than 60 hours per week and quoted from a letter from Frank McManamy, assistant director, mechanical department, division of operation, instructing that the hours of freight car repair on all lines and in all shops where work can be furnished them should be increased to 60 hours per week and more if practicable.

Building Refrigerator Cars in Company Shops.—In inquiry No. 2, dated July 9, the regional director of northwestern railroads asks the lines in his territory to advise him of the number of refrigerator cars that can be built and rebuilt at each of their shops without interfering with other necessary car repair work.

Cars With Short Draft Timbers.—In inquiry No. 1, dated July 9, the regional director of northwestern railroads asks the lines under his jurisdiction to advise him of the number of wooden cars owned by each road which are equipped with draft timbers extending only to the body bolster, secured to draft sills by bolts, showing the total number, separated by class and capacity. If arrangements have been made to dispense with the use of such draft timbers the roads are asked to advise what will be substituted for them.

Prices for Lumber.—The regional purchasing committee of all western railroads announces revised prices on yellow pine lumber, including railroad material of specified grades, recently issued by the director of lumber of the war industries board. Railroads are requested not to place orders at higher prices than those shown in the price list.

Union Station Ticket Offices.—The regional director of central western railroads announces that the western passenger traffic committee will in the future have jurisdiction over all union station ticket offices. The committee will determine whether the ticket selling forces and the information bureaus in such ticket offices are equipped satisfactorily to conduct the business and serve the public; whether salaries paid to ticket office forces are adequate and whether physical facilities at such offices are sufficient or best arranged for prompt and satisfactory service to the public.

Contract Brokers.—The regional directors of the central western and the southwestern lines ask the roads under their jurisdiction to be governed by a letter of the United States attorney-general, which prescribes that in the future no contracts with the government shall be made through the agency of contract brokers or contingent fee operators. The attorney-general's letter points out that some manufacturers, because of

*These are among the more important orders that have been issued and which have not previously been noted either as coming from the Railroad Administration at Washington or some of the other regional directors.

ignorance or misinformation, have thought it necessary to negotiate with the government through contract brokers or contingent fee operators, and have added a contingent fee to their bid, with the result that the government has been forced to pay unnecessarily high prices.

Shipping Grain.—The regional director of central western railroads reminds the lines under his jurisdiction that the heavy grain shipping season is approaching and preparation should be made with a view of attaining maximum efficiency in handling it. While he appreciates that a large number of box cars have already been placed in storage anticipating the grain movement, he believes that this supply will soon be exhausted when the movement begins. It will be necessary to maintain a substantial and steady movement of empty cars from the eastern lines. Central western railroads are asked to inform the regional director fully as to their requirements, advising the approximate number of grain cars required during the next 30 days, stating the approximate number of grain cars in storage and the various car service orders now in existence covering the movement of box cars from eastern to western lines.

Cars Damaged by Switching.—The regional director of central western railroads quotes a letter from the Car Repair Section of the division of operation of the Railroad Administration, which points out that an increasing number of freight cars are being damaged by switching crews, and urges that special men be placed in transportation yards to check up the rough handling of equipment in order to place responsibility so that necessary corrective measures may be taken. By reducing the number of damaged cars in switching yards a reduction is effected in the number of cars placed on shop tracks, thereby assisting materially in making men available for repairs to equipment becoming defective from other causes and making more cars available for service. The regional director asks that the lines under his jurisdiction take the steps suggested by the Car Repair section.

How Can Coal be Saved on the Engine?

By Master Mechanic

THE FIRST ESSENTIAL and the greatest factor of all in fuel saving is whole-hearted co-operation, not only on the part of engineer and fireman, which is absolutely necessary, but also on the part of all officers, train despatchers, train crews, agents and every one having any part in train movement. Next to labor, fuel is the largest item of expense on the railways, and the cost per 1,000 ton-miles per engine for a year, as well as the total amount of the yearly fuel bill of the railways, should be impressed upon all concerned.

I would offer the following suggestions as an aid to fuel economy:

Proper distribution of the coal, so that the same quality will be steadily furnished to the same district. A poor quality of coal can be successfully burned, if it is the only grade received and arrangements are made to burn it.

Coal should be properly broken when placed on tenders. When this is not done, the temptation to throw large chunks into the firebox is usually too strong to resist, especially when the fireman is tired.

All locomotives should be furnished the same grade of coal. If the passenger engine, with experienced fireman, cannot successfully burn the coal as it is furnished, how can it be expected that a man with a heavy drag and probably a green fireman will be able to burn the screenings (after picking the lumps out of it for passenger service) without engine failures?

A statement of the correct weight of coal placed on engine tenders should be furnished, and records of individual performance should be kept. On the majority of roads these records are only guesswork. It is hard to talk to engine crews on fuel economy without being able to give the correct weight of coal furnished.

The quality of coal supplied is usually governed by its availability. The question is not so much the procuring of coal of better quality as the satisfactory and economical burning of the kind received. There is little doubt but that in practically all cases the coal provided can be burned successfully if properly handled. The old excuse of poor coal for engine failures should not be considered.

Engines should be properly drafted under the supervision of an expert, preferably the road foreman of engines. No change should be made except by his authority, and proper records should be kept.

Engines should be kept in repair and be provided with sufficient grate and ash pan openings.

The regular assignment of engines, when it can be maintained, is one of the greatest aids to fuel economy.

Engines should pull their tonnage and be helped or doubled over hills where necessary. It is a question, however, whether there is any economy in overloading engines, so that it requires ten or more hours to go 50 or 60 miles. I have never yet met a thoroughly practical train or engine man who did not question this practice, and a large number of them were men who are absolutely loyal to their employers and their interests. If you wish to clean up a congestion you do not increase train loads, but cut the tonnage and get the trains over the road.

Properly maintained brick arches are a distinct advantage and a great help in fuel economy.

Engine tanks should be of sufficient capacity to avoid overloading and should be provided with guards to prevent the coal being lost through the gangways or through holes in the decks.

Keeping the engines clean, both outside and inside of the cabs, will promote fuel economy and induce good work in other ways.

Firemen when hired should be picked from the best available men. However, at present it is hard to keep good men on the waiting list. On most roads business fluctuates to such an extent that when firemen are needed they usually have to be taken as found. Seniority rights govern in most cases, and if necessary to lay men off because of slack business, there is no chance to get rid of the poor material.

Firemen when hired should be sent on student trips only with good reliable engine crews. Much depends on the first instructions given the green man. Instructions on the principles of fuel combustion should be given to men handling fuel on engines, and more especially to the new fireman, but only in such plain language as can readily be understood by a graduate of the common schools. Firemen are not usually college men. Regular examinations should be held on fuel economy, the same as on signals, book of rules and machinery.

There should be a sufficient number of road foremen and assistants, so that the work of the fireman can frequently be checked. These men should be relieved from other duties. Possibly one good road foreman, with three or four of the best firemen as assistants, would do in most cases. When firemen are used they should always be classed as assistant road foremen, as some engineers will resent their instructions or will find fault with their work if they are classed as a traveling fireman.

The grates should not be shaken unnecessarily. Usually when firing is done properly and the engine is correctly handled, the grates will need only a slight shaking once or twice over a hundred-mile division. Grates shaken often usually mean stuck grates, especially with green coal.

Firemen should be taught that the one who can keep the

steam pressure near the popping point without allowing the pops to open, while using the smallest amount of coal with the least exertion, is the best man. The man who desires to see the "white feather" constantly is not a good asset for any railroad, regardless of which side of the cab he occupies.

The fire door should be closed after each shovelful of coal is placed in the firebox, and the unnecessary use of the blower avoided.

The education of the fireman to the necessity of maintaining a clean fire as light as can be kept, considering the work to be done, should not be overlooked. Fires should not be allowed to die down when drifting down hill or standing on side tracks. This will often cause the boiler to leak. A leaking engine is not an economical engine. Superheater engines should never be allowed to drift without a small amount of steam being fed to the cylinders, whether going down hill or into stations. Alternate firing on each side, with an occasional shovelful in the center, and a close watch being kept to avoid holes and to see that the fire is maintained close up to the front end of the firebox, will usually furnish steam and avoid an excessive amount of black smoke.

Methods good or bad, constantly practiced, become habits, and are much harder to break when once formed than to develop in the first place. Special care should be taken to see that men start right, either as firemen or engineers.

There can only be one captain on an engine, and that should always be the engineer. While an engineer should at all times give his fireman fair and just treatment, he should also insist that his instructions be obeyed. Since he is held responsible, his authority should be sustained by the officers under whom he works. Engine crews should be kept together as much as possible. When this is done they anticipate each other's moves, and as a result less coal will be used.

It is usually best for the pumping to be done by the engineer, the water being kept as low as safety and circumstances permit. Fuel can not be saved when water is carried so high that it floods the valves. While this may not occur as much on superheated as on saturated steam engines, yet steady, consistent boiler feeding, with particular attention to care for any unusual or severe conditions that may arise, will save coal. Engineers should advise firemen of expected moves, so that the fire can be prepared accordingly.

Engines should not be worked harder than the service demands, and the reverse lever should be hooked back as fast as possible when pulling out of stations. Blow-off cocks should be placed where they can easily be handled, and should be opened for three or four seconds every few miles. It is usually best to do this when starting from stations or after standing. By so doing very little water is lost, a better steaming engine is secured, and a clean boiler maintained.

Engineers should see that proper work reports are made out at the end of each trip. They are handling the engine and should be better able than any one else to ascertain and report its defects. Their interest in the proper upkeep of the engines should be greater than that of any other group of employees.

Care should always be taken to see that a full glass of water is left in the engine at points where they are left by engine crews. The water should never be put in when an engine is standing still, if it can possibly be avoided. If necessary to do so, a large amount should not be put in at any one time; the injector should be closed for a period after each half-inch of water fed into the boiler.

In conclusion I wish to emphasize the need of co-operation. Team work is required from everyone concerned in fuel economy as well as from the engineer and fireman. Gentlemanly treatment and regard for the feelings of fellow employees should be maintained at all times. Economy will not result when men are antagonizing each other.

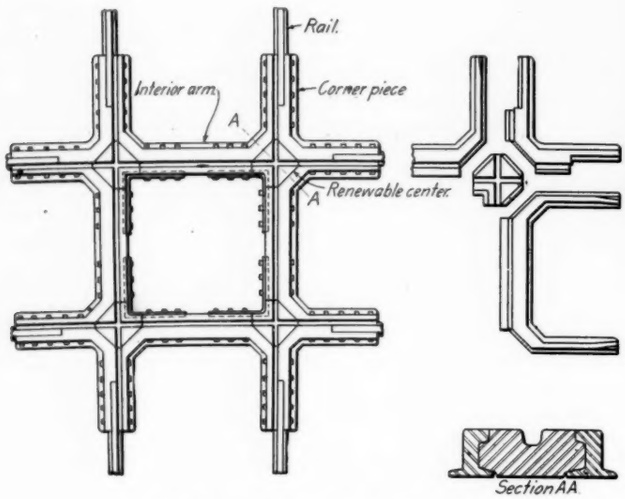
GERMAN USE OF THE LIMBURG RAILWAY.—Traffic between Germany and Belgium over the Limburg Railway, which was one of the subjects of the recent crisis, began June 4, according to The Hague newspaper, Nieuwe Courant. In accordance with the agreement, 25 trains will run in both directions daily. The trains will be operated by a Dutch crew across Dutch territory. The freight conveyed will be examined at the frontier. No passengers will, presumably, be carried.

The First Standard 55-Ton Hopper Car to Be Completed for the United States Railroad Administration Just Delivered by the American Car & Foundry Company. These Cars Will Be Lettered with the Name of the Railroad to Which They Are Assigned

A New Form of Crossing Construction

A NEW CROSSING of the cast-manganese type has recently been placed on the market which contains a renewable center or block at each intersection of the flange ways. This block includes within its limits those parts of the tread, flange ways and guard rails of the two tracks at the intersection which receive the severe wear produced by the wheels jumping the flangeways. It is securely held in place in the body of the crossing construction, while permitting of its ready removal when occasion demands.

As shown in the drawing the crossing is made up of separately cast members provided with grooves and projections on the adjoining faces, so that the several parts fit into each other to form a complete crossing. There are four U-shaped side pieces or interior arms each forming the tread, flange way and guard rail of one of the four sides of the crossing, as well as the guard portion of the two exterior arms. In addition there are four corner pieces forming the tread portions of the exterior arms. All these pieces are chamfered at each corner to make room for the corner units. The sides of these corner units are also provided with tenons which engage corresponding grooves in the adjoining members so that the blocks are secured in position without the direct assist-



The Renewable Center Crossing

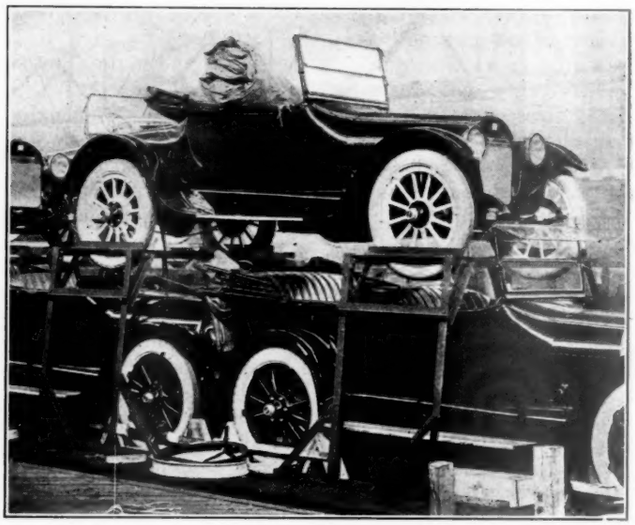
ance of bolts other than those holding the other members together. As a consequence this arrangement has all the advantages of an articulated construction which eliminates the possibility of fracture in the crossing under the deformations taking place with passing loads, while introducing the center block, which may be renewed whenever excessive wear has taken place. This crossing was developed by the Balkwill Manganese Crossing Company, Cleveland, Ohio, and is patterned in part after the Balkwill articulated crossing described in the *Railway Age Gazette* of November 23, 1917, page 949.

THE RAILWAYS OF NICARAGUA.—Nicaragua, notwithstanding its population of 600,000 and its position as the largest of the six Central American states, is possessed of hardly more than 200 miles of railway in operation.

RAILWAY CONSTRUCTION IN INDIA.—The Government of India has sanctioned the construction by the agency of the Madras & Southern Mahratta Railway, on behalf of the Forest Department, of a light meter railway from Alnavar, a station on the Madras & Southern Mahratta to Dandeli, in the North Kanara district, a distance of about 19 miles.—*Railway Gazette, London.*

Steel Deck Supports for Heavier Car Loading

THE UTILIZATION of the full cubical capacity of freight cars is impossible when handling certain commodities unless a large amount of dunnage is used. The expense of providing temporary supports in cars has prevented the roads and the shippers from securing the maximum loading efficiency. To avoid the waste incident to the use of temporary wooden supports and to reduce the weight of the dunnage, the Carbo Steel Post Company, Chicago Heights, Ill., has developed a collapsible deck support. This device, which is known as the Carbo steel loading and ship-



Automobiles Double Decked by the Use of Collapsible Steel Supports

ping deck, is built up of angle irons. The transverse members for supporting the deck can be adjusted to various heights. Among the commodities for which these decks are particularly well adapted are merchandise, goods shipped in sacks, fruits and vegetables, eggs, tiling and automobiles.

At present, the device is used principally for double decking loads of automobiles, trucks and tractors. Special supports are provided for the wheels and no decking is used so that the maximum amount of space can be utilized. In double decking flat or box cars the automobile is raised, either by jacks or hoists, and the loading deck is assembled under it. Another automobile can then be rolled into position beneath the support. In some cases, the maximum capacity is secured by placing an automobile at the end of the car, with one pair of wheels elevated and resting on the steel deck. With this device four automobiles can usually be placed in a 36 or 40-ft. car and six or eight in a 50-ft. car. The steel decks, when removed from the car, are returned to the original shipping point. It is claimed that the cost of double decking by this method is only 25 per cent of the cost of wooden supports and as the weight of the steel decks is less there is also a saving in freight charges.

NEW RAILWAYS TO UKRAINE.—The Rumanian official journal Steagul announces that two new direct railway communications between South Germany and Austria-Hungary and the Ukraine, crossing Moldavia, are being planned. One of these lines would go from Munich, via Vienna and Budapest, to Odessa, passing through the Rumanian towns Piatra, Meamett, Roman, Jassy and Kishineff. The other railway line going to Mohileff would touch Rumanian territory near Dorohoi.

General News Department

"Stop Eating Freight" is the exhortation addressed to the people of Pittsburgh, by W. D. George, county food administrator at that city. That is to say, eat those things that are grown nearest home, so as to save railroad transportation. Every person should keep on planting those things that can be grown before cold weather sets in.

The mail by airplane arrived in New York on July 10 in two hours, 30 minutes, from Washington, which time included a stop of eight minutes at Philadelphia. This makes the average speed about 90 miles an hour. The shortening of the time has been accomplished because of the increasing familiarity of the flyers with the conditions which they have to meet.

Fifty retired employees of the Pennsylvania Railroad, at Sunbury, Pa., were notified recently that places were open for them if they wished to return to work, and provided they should pass necessary physical tests. Many of these men are mechanics. They were told that in going to work now they would not disturb their relations to the company as pensioners.

The deportation of striking miners from Bisbee, Ariz., into New Mexico, in July, 1917, is the subject of suits recently entered in the county court at Tombstone, Ariz., against corporations and individuals for damages resulting from the alleged kidnapping of the miners, of whom there were over 1,100. Each suit asks for $20,000 damages; and included among the defendants are Phelps, Dodge & Co., and other mining corporations and the El Paso & Southwestern Railroad Company.

The Big Horn Basin line of the Chicago, Burlington & Quincy was put out of commission on July 10 for the second time within the past month, owing to a cloudburst in the vicinity of the Bad Water river. Considerable lengths of track and a number of bridges were washed out. Two weeks previous to this last cloudburst the same portion of the road was damaged, and the repairs had been completed only a few days when the second storm occurred, resulting in parts of the new work being washed away.

Grain leaking from a moving freight car may mean a considerable loss within a few hours, and, to prevent such losses, O. E. Linn, trainmaster on the St. Louis system of the Pennsylvania Lines, at Decatur, Ill., has issued a bulletin instructing trackmen, agents and operators who notice cars leaking in trains to signal the trainmen by holding both arms in an upright position at full length. If a leaking car cannot be repaired it must be set out of the train. Conductors are also instructed not to take cars which in their opinion are not in suitable condition for transporting grain.

The Lexington avenue subway, New York city, from the Grand Central Terminal, 42nd street, northward to 167th street, was opened for local traffic this week. The connection between this subway and the existing line, south of 42nd street is not yet completed and through trains will not be run for several weeks yet. The introduction of through trains on the west side of the city will also be delayed. The Jerome avenue branch of the subway, north of 167th street—which is not a subway but an elevated line—is to be connected with the elevated lines on the west side of Manhattan, those running through Sixth avenue and Ninth avenue; and trains will be run through, thus making virtually an extension of the Sixth and Ninth avenue elevated lines.

The Hampden Railroad, which is an elephant on the hands of the Boston & Maine, has figured in the news columns of the daily press on two occasions recently. In the Superior Court at Springfield, Mass., the Hampden Railroad Corporation sued the Boston & Maine to recover the cost of the construction of the line, $4,000,000, or thereabouts, the basis of the suit being that the Boston & Maine had agreed to take a lease of the road and to operate it and had failed to do so. The suit, after a long trial, was decided in favor of the Boston & Maine. The Hampden, about 15 miles long, and built to the highest standards of construction, connects the New York, New Haven & Hartford at Springfield with the Boston & Maine at Bondsville, Mass.; but has never been used. Mr. Mellen's plans for through trains between New York and Boston by this route fell through before the connecting link was finished. The other news item is to the effect that the Government has commandeered 100 tons of rails, lying on the Hampden Railroad premises, for use at the Watertown (Mass.) arsenal. Some of the rails were in a long side track and others had never been put into the track. All of them are 85 lb. section, and they have been lying unused about four years.

A plan to send a business commission to Russia, discussed in the press despatches this week, is said to have been decided upon by the administration at Washington and to have received President Wilson's approval; and Daniel Willard, president of the Baltimore & Ohio, is understood to have been selected as its head. Frank A. Vanderlip, president of the National City Bank, New York City, is slated as the leading financial member of the mission. The aim of the President in sanctioning an economic mission to Russia is to bring about a restoration of commercial relations with that country which were interrupted in 1911 and further suspended in 1915 by the war, which has shattered Russia's industrial structure. The mission is the outgrowth of conferences of business men in New York and other cities. American merchants are reported as willing to engage in trade restoration with Russia, but manifest some hesitation unless there can be government support behind the project. At present the condition of foreign exchange and the want of a clearing-house to take care of the banking functions necessary in any attempt to restore commercial relations constitute an almost hopeless barrier to the effort to accomplish relief for the Russian people.

The Telegraph Control Law

The Senate on July 13 passed by a vote of 46 to 16 the joint resolution previously passed by the House authorizing the President to take over and operate telegraph, telephone, cable and radio lines for the period of the war. The resolution encountered considerable opposition because no hearings had been held to demonstrate its necessity, but it was adopted without amendments. The 16 who voted against it are all Republicans. While there has been no indication as to when and how the President will exercise the power, granted by this law, Postmaster General Burleson has issued a statement saying that if he is called upon to select a man to direct the work there will be no favoritism and no censorship of press wires. During the debate it was stated that only trunk lines would be taken over.

Burlington Relief Department

In the year ending December 31, 1917, the Relief Department of the Chicago, Burlington & Quincy paid out $666,900 in benefits to members; $151,732 to those disabled through sickness; $192,155 for deaths from sickness; $187,776 for disability from accidents; $79,378 for death from accident and $55,858 for surgical attendance. A total of 12,031 cases of disability were reported during the year. The membership was 29,690, or 1,368 increase in 12 months. The payments by the company in establishing, operating and maintaining the Relief Department during its existence (27 years) have amounted to $2,062,730. J. N. Redfern is superintendent and Dr. J. A. Denny is assistant superintendent and medical director.

REVENUES AND EXPENSES OF RAILWAYS

FOUR MONTHS OF CALENDAR YEAR 1918

Name of road.	Average mileage operated during period.	Operating revenues: Freight.	Passenger.	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures.	Maintenance of Equipment.	Traffic.	Transportation.	General.	Total.	Operating ratio.	Net from railway operation.	Railway tax accruals.	Operating income (or loss).	Increase (or decr.) comp. with last year.
Indiana Harbor Belt	116	.....	.....	$1,491,713	$337,827	$374,090	$6,894	$971,124	$45,935	$1,733,870	116.23	—$242,157	$39,779	—$281,936	—$659,319
International & Great Northern	1,159	$2,779,238	$1,132,255	4,252,550	491,908	745,517	72,164	1,800,413	133,943	3,238,028	76.15	1,014,523	120,000	893,103	256,460
Kanawha & Michigan	176	1,025,374	229,530	1,302,311	186,595	402,059	11,358	426,901	33,727	1,060,646	81.44	241,665	74,117	167,549	49,915
Kansas City, Mexico & Orient	272	333,452	42,951	395,928	71,055	147,526	18,570	225,791	26,401	489,343	123.59	—93,415	25,000	—118,415	—128,004
Kansas City Terminal	24	.....	.....	358,849	43,351	68,238	.....	169,667	5,866	288,181	80.31	70,668	77,263	—6,594	—61,754
Kansas City, Mexico & Orient of Tex	465	343,191	42,776	406,666	71,393	112,057	16,359	208,275	15,586	423,671	104.18	—17,006	20,000	37,132	—7,358
Kansas City Southern	774	3,783,866	656,377	4,777,743	410,877	741,232	86,424	1,715,055	147,750	3,098,786	64.88	1,678,957	227,944	1,450,269	135,152
Lake Erie & Western	900	2,329,175	187,431	2,638,614	323,975	565,875	47,749	1,222,774	72,022	2,232,395	84.60	406,218	102,806	302,988	—362,708
Lehigh & Hudson River	96	601,086	14,741	650,418	83,077	117,778	6,339	318,476	19,983	545,654	83.89	104,765	84,000	80,763	—121,560
Lehigh Valley	1,442	13,090,216	1,400,603	15,894,371	1,809,179	4,028,176	264,989	9,113,884	365,815	15,625,534	98.31	268,838	645,882	—377,953	—2,423,007
Long Island	398	1,447,496	3,208,138	5,207,268	700,748	754,791	35,791	2,689,844	149,550	4,376,353	84.06	830,914	318,608	510,952	139,890
Los Angeles & Salt Lake	1,164	2,716,157	1,213,310	4,263,978	655,203	788,912	117,916	1,559,845	90,914	3,287,218	77.09	976,756	251,663	724,100	—472,598
Louisiana & Arkansas	302	453,942	113,298	590,611	91,185	80,097	13,670	190,115	20,635	395,702	67.00	194,909	41,745	153,120	94,553
Louisiana Ry. & Navigation Co	356	714,033	202,268	965,350	112,003	130,959	18,633	394,346	88,023	683,964	70.85	281,387	56,000	225,333	84,949
Louisiana Western	207	910,610	358,372	1,343,850	114,103	157,226	28,444	317,391	34,680	661,340	49.21	682,510	53,491	₀88,666	156,464
Louisville & Nashville	5,074	20,053,482	6,362,692	28,084,314	3,228,312	5,862,492	458,407	11,067,798	501,683	21,203,262	75.50	6,881,052	953,479	5,922,089	—396,668
Louisville, Henderson & St. Louis	199	594,787	182,828	815,479	118,214	110,133	23,054	336,454	16,811	605,284	74.22	210,195	15,618	194,404	—48,327
Maine Central	1,216	2,904,059	1,110,186	4,327,870	825,908	681,786	42,044	2,567,833	118,107	4,417,171	103.06	—89,300	271,772	—361,132	—1,117,291
Maryland, Delaware & Virginia Ry. Co	82	130,861	55,029	192,417	20,447	44,006	5,329	159,630	6,010	235,423	122.35	—43,006	4,665	—47,670	58,802
Michigan Central	1,861	12,665,639	3,969,318	18,766,270	2,179,136	3,328,537	263,507	8,294,293	342,569	14,696,830	78.32	4,069,440	620,200	3,445,083	694,851
Midland Valley	386	504,370	217,911	1,067,128	171,546	132,839	11,409	387,947	42,465	746,207	69.93	320,921	28,751	292,107	86,702
Mineral Range	100	338,634	9,643	360,366	62,856	75,903	1,867	208,695	4,448	353,371	98.05	6,585	13,200	—6,605	—6,222
Minneapolis & St. Louis	1,646	2,799,106	624,400	3,631,047	555,318	686,724	65,774	1,711,755	94,538	3,114,464	85.77	516,582	197,308	316,934	—402,547
Minn. & International Ry. Co	195	244,047	90,926	354,879	45,051	52,548	1,836	170,710	12,556	285,700	80.51	69,178	21,084	48,069	—74,783
Minn., St. Paul & Sault Ste. Marie	4,243	6,497,905	1,815,745	9,079,934	1,304,909	1,791,552	141,929	4,443,068	270,339	7,986,953	87.96	1,093,458	728,458	364,554	—1,878,846
Missouri & North Arkansas	365	291,641	140,737	464,348	94,707	93,357	11,135	206,313	21,740	426,841	91.92	37,507	22,231	13,756	—74,359
Missouri, Kansas & Texas System	3,861	10,200,731	4,343,269	15,668,383	2,306,177	3,748,854	231,304	6,746,463	543,859	13,691,982	87.39	1,976,400	573,284	1,402,424	—11,724
Missouri, Okla. & Gulf	332	463,919	109,884	602,388	121,258	151,977	9,861	322,873	32,859	639,451	106.15	—37,063	36,000	—73,355	—1,132,222
Missouri Pacific	7,301	19,224,962	5,613,789	27,033,321	3,665,563	4,735,177	455,091	10,545,493	605,676	20,088,149	78.31	6,945,171	1,112,186	5,828,907	.....
Mobile & Ohio	1,153	3,474,195	546,988	4,287,434	514,940	1,177,067	143,603	1,889,308	126,550	3,851,468	89.83	435,966	171,984	262,402	—604,932
Monongahela	108	686,571	72,089	778,694	206,394	65,680	4,128	294,598	17,477	588,275	75.55	190,419	15,066	175,350	—113,890
Monongahela Connecting	5	.....	.....	645,001	99,508	113,000	1,515	331,001	17,941	562,965	87.28	82,036	8,884	73,151	—60,793
Morgan's La. & Tex. R. R. & S. S. Co	400	1,860,232	553,884	2,580,900	277,238	303,055	41,842	810,938	56,452	1,500,800	58.15	1,080,100	107,979	970,962	29,643
Nashville, Chattanooga & St. Louis	1,236	4,030,476	1,410,991	5,822,680	549,054	1,112,691	187,001	2,541,858	149,657	4,560,042	78.31	1,262,639	133,336	1,128,909	165,072
Newburgh & South Shore R. R. Co	15	.....	321	292,173	44,913	88,614	.....	178,689	10,892	383,109	110.58	—30,936	20,465	—51,401	19,981
New Orleans & North Eastern	203	1,270,109	460,437	1,922,185	182,364	305,866	33,879	739,716	44,780	1,315,833	68.46	606,352	119,178	486,676	63,908
New Orleans Great Northern	284	494,749	128,063	652,314	76,583	114,363	12,593	230,502	28,224	463,421	71.04	188,892	32,720	155,905	17,317
New York Central	6,079	50,065,108	16,850,914	77,455,748	9,210,943	17,573,494	882,695	35,087,319	1,967,034	65,812,139	84.97	11,643,608	3,456,340	8,181,696	—4,213,947
New York, Chicago & St. Louis	571	5,066,999	291,841	5,549,892	719,025	1,003,153	160,816	2,763,860	158,834	4,818,616	86.82	731,276	230,000	501,159	297,266
New York, New Haven & Hartford	2,007	12,983,427	10,699,064	27,228,592	3,341,014	5,044,718	149,211	13,507,077	875,880	23,447,018	86.11	3,781,574	1,096,000	2,679,927	—3,749,952
New York, Ontario & Western	567	2,284,511	305,634	2,978,263	337,373	644,080	33,662	1,573,188	81,023	2,669,326	89.62	308,877	87,000	221,661	—215,737
New York, Philadelphia & Norfolk	121	1,295,902	301,097	1,770,712	157,788	429,701	34,308	902,616	42,868	1,612,203	91.05	158,509	55,929	102,579	—114,997
New York, Susquehanna & Western	135	887,927	171,784	1,160,099	129,901	163,839	8,092	753,477	26,517	1,081,770	93.25	78,329	59,666	18,662	—141,890
Norfolk Western	2,083	18,175,531	2,571,929	21,670,719	2,526,252	5,508,411	229,269	8,027,405	430,589	16,781,128	77.66	4,889,591	1,088,000	3,796,117	—2,969,488
Norfolk Southern	907	1,241,839	386,244	1,729,382	253,487	264,901	25,544	773,456	77,868	1,395,658	80.70	333,671	63,233	270,363	—246,840
Nevada Northern	168	731,521	59,099	809,956	70,366	98,383	3,233	198,103	20,564	391,115	48.29	418,841	—17,958	367,638	—37,161
Northern Pacific	6,600	20,235,383	4,788,454	27,219,923	3,779,668	4,111,444	333,015	10,780,275	538,866	19,735,331	72.50	7,484,592	2,049,111	5,433,534	—3,148,153
Northwestern Pacific	507	732,633	535,669	1,419,586	250,334	176,168	16,841	539,427	38,046	1,023,683	72.11	395,902	83,413	312,469	128,588
Oregon Short Line	2,311	7,064,530	1,843,881	9,644,988	1,329,910	1,327,153	110,821	2,779,034	317,503	6,031,598	62.54	3,613,390	645,016	2,967,448	—186,706
Oregon-Washington R. R. & Nav. Co	2,065	4,585,653	1,851,929	7,139,604	1,194,665	924,880	145,801	2,780,977	314,598	5,503,678	77.09	1,635,926	495,639	1,139,728	—308,506
Panhandle & Santa Fe	709	1,423,561	397,908	1,916,159	254,823	418,764	17,732	646,209	55,301	1,389,140	72.49	527,018	69,727	456,880	—308,859
Pennsylvania Company	1,754	15,828,883	4,019,507	22,178,979	4,020,918	5,897,391	321,181	11,639,438	653,659	22,708,796	102.38	—529,818	1,140,531	—1,670,348	2,807,310
Pennsylvania Railroad	5,334	56,212,958	24,417,508	90,759,638	13,538,985	24,854,826	961,421	45,316,103	2,507,148	88,703,476	97.73	2,056,162	3,436,522	—1,389,193	—15,453,708
Peoria & Pekin Union	19	82,020	23,974	414,694	42,713	72,989	106	271,070	13,567	400,446	96.55	14,249	37,853	—23,604	—17,153
Pere Marquette	2,245	5,694,856	1,000,134	7,409,109	1,068,389	1,450,645	124,987	3,512,088	235,952	6,403,045	86.42	1,006,063	230,253	775,077	—410,346
Philadelphia & Reading	1,126	17,792,575	2,369,409	21,641,853	1,889,229	5,189,161	181,715	10,886,942	414,293	18,616,190	86.01	3,025,663	549,976	2,475,505	—3,464,788
Pittsburgh & Lake Erie	224	7,375,609	673,837	8,676,493	1,333,029	1,874,688	59,136	2,909,019	155,264	6,349,302	73.17	2,327,192	295,600	2,031,591	251,169
Pittsburgh & Shawmut R. R. Co	94	363,792	15,663	384,379	89,836	94,190	4,551	144,285	15,539	348,401	90.63	35,978	12,650	23,328	—95,942
Pittsburgh, Cincti., Chic. & St. Louis	2,398	15,616,389	4,696,726	22,973,682	3,199,400	6,044,459	349,676	10,816,340	601,602	21,336,611	92.42	1,740,071	918,160	821,169	—3,097,849
Pittsburgh, Shawmut & Northern	204	417,009	22,915	451,086	98,838	167,385	5,065	270,993	28,922	571,203	127.62	—120,116	7,252	—127,368	—83,400
Pitts. & W. Va	63	459,260	34,627	540,121	75,129	145,257	4,195	198,254	26,885	481,693	89.18	58,429	47,510	10,919	†
Port Reading	21	460,806	.....	626,110	38,596	64,171	160	410,276	5,168	518,368	82.80	107,742	40,000	67,742	—33,878
Richmond, Fredericksburg & Potomac	87	589,144	853,702	1,631,721	100,066	216,857	13,613	665,218	35,824	1,048,658	64.27	583,063	51,114	531,675	—65,994
Rutland	415	831,665	323,373	1,356,101	182,412	276,280	34,979	720,746	32,612	1,250,091	93.18	106,011	71,586	34,418	—181,603
St. Joseph & Grand Island	258	720,389	118,975	885,543	174,281	115,561	10,863	426,702	26,053	755,813	85.35	129,730	34,426	95,280	14,578
St. Louis Merchants Bridge Terminal	9	.....	1,619	1,011,664	154,927	99,422	3,488	660,528	22,326	940,692	93.08	70,972	32,100	38,838	—172,749
St. Louis-San Francisco	4,761	12,090,920	5,867,987	19,275,624	2,770,488	4,303,552	215,835	7,816,885	542,800	15,647,845	81.18	3,627,779	936,786	2,685,919	—2,054,958
St. Louis-San Francisco & Texas	143	458,887	49,579	538,153	50,819	86,021	7,646	192,653	23,156	360,295	66.95	177,858	6,581	171,036	141,922
St. Louis Southwestern	1,783	5,146,332	1,125,211	6,618,193	737,685	1,185,435	173,032	2,137,098	221,114	4,462,616	67.43	2,155,577	266,264	1,888,317	387,705

†Began operation April 1, 1917.

REVENUES AND EXPENSES OF RAILWAYS

FOUR MONTHS OF CALENDAR YEAR 1918 (CONTINUED)

Name of road.	Average mileage operated during period.	Operating revenues			Operating expenses						Operating ratio.	Net from railway operation.	Railway tax accruals.	Operating income (or loss).	Increase (or decr.) comp. with last year.
					Maintenance of										
		Freight.	Passenger.	Total (inc. misc.)	Way and structures.	Equipment.	Traffic.	Transportation.	General.	Total.					
San Antonio & Aransas Pass	732	$945,273	$335,214	$1,413,766	$192,942	$263,823	$27,814	$678,088	$59,720	$1,221,243	86.38	$192,523	$60,000	$131,634	$209,366
Seaboard Air Line	3,561	7,012,186	3,285,589	11,375,151	1,137,140	2,214,603	276,113	4,901,391	319,735	8,942,387	78.61	2,432,764	478,070	1,952,227	—911,558
South Buffalo Ry. Co	35	185,207	.....	470,754	45,845	62,398	1,706	241,668	7,001	358,618	76.18	112,135	5,600	106,535	—77,511
Southern	6,982	20,817,024	10,733,984	34,606,580	3,582,548	5,950,843	527,156	12,966,666	736,387	23,962,095	67.30	10,644,485	1,215,747	9,421,548	1,862,827
Southern in Mississippi	278	239,646	163,599	441,475	89,624	41,341	9,494	199,368	15,558	355,384	80.50	86,091	36,000	50,080	45,505
Southern Pacific	7,102	30,423,093	11,860,507	46,214,691	5,999,957	7,671,787	606,757	19,747,310	1,053,681	35,794,250	77.45	10,420,441	2,276,452	8,136,585	—3,188,923
Spokane, International Ry. Co	165	236,483	54,635	301,001	47,286	28,201	6,159	97,772	14,993	194,412	64.58	106,589	13,446	93,105	38,265
Spokane, Portland & Seattle	554	1,667,929	596,278	2,426,041	223,725	210,470	24,559	712,743	62,965	1,250,185	51.53	1,175,857	288,000	887,604	121,609
Staten Island Rapid Transit Co	23	162,314	193,639	394,109	90,753	76,875	4,610	254,314	27,349	453,901	115.17	—59,791	36,000	—95,809	—158,380
Tennessee Central	293	500,518	180,402	712,493	132,635	137,312	14,982	319,692	29,715	634,336	89.03	85,157	21,484	63,671	—36,476
Terminal R. R. Ass'n of St. Louis	36	.....	10,424	1,125,933	224,841	126,304	3,607	496,612	19,696	881,017	78.24	244,916	116,867	128,007	—301,015
Texarkana & Fort Smith	81	308,337	57,104	396,592	41,568	28,041	10,365	146,936	16,196	242,034	61.03	154,558	29,162	125,396	—557
Texas & New Orleans	469	1,600,205	553,068	2,353,973	290,083	265,696	26,705	834,350	46,286	1,537,247	66.30	716,726	87,325	628,294	53,134
Texas & Pacific	1,946	5,163,495	1,971,131	7,707,407	929,810	1,204,126	125,536	3,170,036	268,934	5,754,435	74.66	1,952,972	347,744	1,603,094	138,250
Toledo & Ohio Central	435	2,083,960	195,276	2,396,271	460,894	639,523	26,454	1,231,822	48,887	2,414,784	100.77	—18,513	100,275	—118,802	—290,262
Toledo, Peoria & Western	247	311,617	128,888	463,287	76,725	129,200	9,269	232,805	18,021	466,020	100.59	—2,733	37,962	—40,694	—39,822
Toledo, St. Louis & Western	454	1,997,578	126,447	2,216,055	339,593	432,314	62,244	875,123	39,332	1,748,446	78.89	467,609	90,200	377,408	—104,975
Trinity & Brazos Valley	368	281,423	42,152	379,497	89,197	127,780	7,579	174,447	31,820	430,823	113.53	—51,326	25,738	77,065	77,854
Ulster & Delaware	128	141,014	44,318	241,585	36,142	42,206	4,011	155,382	14,282	253,745	105.03	—12,161	18,400	—30,544	—38,776
Union Pacific	3,630	18,039,431	4,669,442	25,150,287	2,888,185	4,381,051	336,057	7,900,791	752,324	16,805,725	66.82	8,344,562	1,154,568	7,188,615	1,384,340
Union R. R. of Pennsylvania	35	.....	.....	1,584,593	162,360	717,732	1,122	1,124,450	24,278	2,029,946	128.10	—445,353	21,213	466,586	—387,554
Utah Railway	98	388,917	2,228	392,975	32,116	36,852	683	86,358	24,423	180,432	45.92	212,543	13,127	199,417	*
Vicksburg, Shreveport & Pacific	171	492,601	230,360	814,245	80,424	139,749	21,809	257,142	25,829	537,296	65.98	276,949	38,411	238,397	142
Virginian	518	2,760,505	173,944	3,150,697	319,925	640,404	23,637	1,316,442	62,411	2,368,458	75.17	782,239	162,740	619,477	—598,545
Wabash	2,519	8,720,408	2,443,046	12,207,347	1,387,586	2,374,335	266,640	6,439,539	322,449	10,862,716	88.99	1,544,631	442,296	901,407	—2,251,188
Washington Southern	35	203,828	538,804	938,083	66,506	116,603	5,390	348,471	17,130	561,272	60.83	376,811	22,689	354,090	28,129
West Jersey & Seashore	359	803,848	1,285,221	2,265,164	568,603	453,472	30,551	1,284,644	71,894	2,449,271	108.13	—184,107	163,158	—349,679	278,248
Western Maryland	707	3,610,268	279,825	4,149,512	628,574	1,176,039	71,671	1,955,248	120,321	3,991,498	96.19	158,014	172,000	—14,786	—1,061,637
Western Pacific	1,022	2,716,649	353,897	3,224,159	503,791	429,404	76,262	1,084,715	83,146	2,218,480	68.81	1,005,679	163,262	842,300	750,822
Western Ry. of Alabama	133	440,941	242,209	741,627	92,483	129,353	18,469	232,924	22,668	505,279	68.13	236,347	24,000	212,348	108,918
Wheeling & Lake Erie	512	2,840,416	123,890	3,205,289	509,734	801,917	29,477	1,425,749	93,914	2,869,126	89.51	336,163	196,801	138,838	—460,779
Yazoo & Mississippi Valley	1,382	4,882,352	1,394,826	6,569,363	853,489	1,215,383	68,624	2,304,635	163,018	4,609,094	70.16	1,960,269	246,112	1,713,431	465,356
*Was lessor company.															
MONTH OF MAY, 1918															
Alabama & Vicksburg	141	123,512	48,768	193,962	17,220	32,998	3,873	74,651	6,760	136,842	70.55	57,120	11,882	45,154	2,082
Alabama Great Southern	312	481,056	170,688	682,904	53,796	168,039	10,678	247,617	13,851	496,715	72.74	186,188	21,288	164,562	—3,356
Ann Arbor	293	195,757	40,565	256,383	53,468	51,016	5,214	129,783	9,395	249,532	97.33	6,850	13,100	—6,267	—102,215
Arizona Eastern	377	282,970	48,049	352,376	59,999	45,308	2,122	85,970	15,797	214,681	60.92	137,693	17,409	120,284	—105,438
Atchison, Topeka & Santa Fe	8,646	8,918,020	2,945,379	12,888,506	1,647,139	2,181,849	127,862	3,897,496	219,925	8,032,288	62.32	4,856,218	557,089	4,298,379	483,892
Atlanta, Birmingham & Southern	639	230,197	56,024	315,308	76,958	77,432	8,263	154,283	11,794	328,790	104.28	—13,482	15,700	—29,262	—53,333
Atlantic City	170	112,783	162,743	295,494	26,267	46,350	1,191	134,821	716	209,448	70.88	86,045	12,000	74,045	9,592
Atlantic Coast Line	4,813	2,676,219	1,206,599	4,202,788	485,745	752,546	44,930	1,730,479	90,537	3,117,319	74.17	1,085,468	200,000	885,016	135,147
Baltimore & Ohio	4,948	9,266,339	2,569,530	12,924,480	1,821,729	3,577,489	165,222	5,622,959	271,608	11,550,765	89.37	1,373,715	406,055	966,190	—1,872,190
Baltimore & Ohio Chicago Terminal	79	.....	571	167,619	22,814	45,075	1,199	120,639	8,182	200,617	119.68	—32,998	32,376	—65,374	—48,665
Baltimore, Chesapeake & Atlantic	87	73,506	36,682	115,540	11,350	26,255	627	57,055	2,500	97,788	84.63	17,753	2,489	15,264	8,353
Bangor & Aroostook	632	293,392	61,739	373,878	45,541	77,307	5,172	121,626	12,919	265,704	71.06	108,175	17,735	90,440	—41,525
Beaumont, Sour Lake & Western	118	72,518	24,824	101,477	16,698	10,657	1,456	35,588	4,358	68,785	67.88	32,691	2,150	30,541	4,848
Bessemer & Lake Erie	208	1,090,934	28,261	1,140,182	87,971	250,760	18,207	341,664	21,552	701,918	61.56	438,264	24,037	414,226	114,068
Bingham & Garfield	36	289,343	3,563	300,740	38,535	50,969	1,147	50,720	6,106	150,602	50.08	150,138	9,565	140,572	—44,787
Birmingham Southern	44	98,892	1,284	124,581	13,686	33,639	1,037	3,781	.....	110,606	88.78	13,975	3,852	10,122	22,278
Buffalo & Susquehanna R. R. Corp.	352	148,966	5,094	157,899	30,782	57,394	1,599	57,936	7,569	155,280	99.34	2,619	4,100	—1,481	—33,986
Buffalo, Rochester & Pittsburgh	584	1,312,608	99,078	1,478,166	185,083	408,487	16,141	622,144	32,485	1,266,999	86.71	211,166	26,734	184,432	—32,749
Central of Georgia	1,918	815,899	417,685	1,412,662	213,079	250,669	26,340	550,153	47,536	1,089,377	77.12	325,284	13,616	261,450	58,548
Central of New Jersey	684	2,852,229	551,293	3,728,628	268,497	729,239	25,629	1,491,009	89,659	2,625,398	70.41	1,103,230	169,972	931,664	28,272
Chesapeake & Ohio Lines	2,479	4,384,237	975,210	5,753,130	647,364	1,097,439	49,645	1,889,990	95,667	3,805,110	66.13	1,948,019	145,000	1,802,989	742,157
Chicago & Alton	1,050	1,225,467	463,072	1,810,848	279,563	439,082	24,511	736,302	33,784	1,525,726	84.25	285,122	57,056	227,907	—219,029
Chicago & Eastern Illinois	1,131	1,629,636	287,009	2,070,185	268,609	536,806	21,799	766,377	42,714	1,640,238	79.23	429,947	28,865	350,917	45,899
Chicago & Erie	269	657,896	168,093	800,091	113,430	132,757	17,221	397,434	20,834	683,236	85.39	116,855	36,608	80,246	—170,916
Chicago & Northwestern	8,094	6,120,762	2,050,868	9,202,791	1,543,953	1,799,891	66,602	3,990,425	194,569	7,649,320	83.12	1,553,471	420,000	1,132,572	—1,001,539
Chicago, Burlington & Quincy	9,373	7,344,861	2,072,884	10,409,901	1,880,504	1,989,331	89,462	4,067,151	257,365	8,434,934	81.01	1,975,868	489,600	1,486,212	—1,554,479
Chicago, Detroit & Can. Gd. Trk. Jct.	60	98,450	9,574	132,914	13,958	22,145	1,314	73,130	3,064	112,613	84.72	20,302	3,345	16,956	25,135
Chicago, Indianapolis & Louisville	657	539,177	195,614	816,902	106,351	210,452	14,692	371,138	31,219	734,682	89.94	82,220	31,686	50,511	—150,942
Chicago Junction	12	.....	.....	321,619	45,573	31,825	428	168,925	7,756	286,892	89.20	34,726	2,487	32,239	—12,509
Chicago, Milwaukee & St. Paul	10,305	6,911,684	1,686,639	9,676,132	1,507,763	2,451,374	95,215	4,366,312	208,059	8,560,943	88.47	1,115,189	516,348	598,654	—2,145,467
Chicago, Rock Island & Gulf	474	241,315	89,463	357,226	56,433	47,912	7,088	120,782	9,094	242,627	67.91	114,599	13,155	101,407	16,450
Chicago, St. Paul, Minn. & Omaha	1,749	1,116,802	435,565	1,692,665	290,562	310,043	17,484	799,898	48,526	1,479,063	87.38	213,602	105,421	108,004	—278,060
Cincinnati, New Orleans & Tex. Pacific	337	893,162	344,805	1,312,508	95,381	309,970	18,634	449,250	21,892	900,959	68.64	411,549	38,250	373,122	86,563
Coal & Coke	197	88,374	20,892	113,885	25,948	36,185	1,400	54,382	3,400	121,315	106.52	—7,430	5,000	—12,430	—18,933
Colorado Midland	337	107,986	16,357	130,188	45,053	27,792	4,531	66,153	4,069	148,130	113.78	—17,942	6,863	—24,806	.....

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF MAY, 1918 (CONTINUED)

Name of road.	Average mileage operated during period.	Operating revenues			Operating expenses						Operating ratio.	Net from railway operation.	Railway tax accruals.	Operating income (or loss).	Increase (or decr.) comp. with last year.
					Maintenance of										
		Freight.	Passenger.	Total (inc. misc.)	Way and structures.	Equipment.	Traffic.	Transportation.	General.	Total.					
Colorado & Southern	1,100	$728,340	$150,171	$947,836	$125,399	$204,293	$7,054	$306,165	$31,962	$679,400	71.67	$268,436	$47,000	$221,436	$10,016
Cripple Creek & Colorado Springs	116	65,851	10,045	77,819	7,080	12,079	977	21,909	2,819	44,865	57.65	32,954	8,500	24,453	—18,817
Cumberland Valley	163	346,441	58,626	438,998	45,596	51,333	4,771	136,325	9,535	247,710	56.43	191,288	9,277	182,010	—14,197
Detroit & Toledo Shore Line	80	186,262	.....	186,589	11,830	15,981	2,132	56,417	3,266	89,627	48.03	96,963	11,800	85,163	11,854
El Paso & Southwestern Co	1,028	902,595	192,353	1,146,642	93,971	176,133	11,202	347,823	31,070	667,511	58.22	479,132	50,985	428,143	—66,958
Elgin, Joliet & Eastern	804	1,387,332	10	1,612,206	145,491	367,971	9,161	520,142	26,526	1,068,831	66.30	543,375	50,772	492,603	159,707
Erie	1,989	4,923,508	1,055,076	6,771,212	864,902	2,086,467	93,158	3,215,893	154,492	6,458,700	95.38	312,513	236,897	75,629	1,452,269
Fonda, Johnstown & Gloversville	88	29,861	57,094	90,813	7,654	7,033	606	32,080	6,767	54,143	59.62	36,670	4,500	32,170	—3,521
Grand Rapids & Indiana	569	379,076	113,882	543,643	70,820	123,199	11,745	230,920	17,079	454,326	83.57	89,316	23,099	66,167	8,411
Hocking Valley	349	915,268	81,053	1,067,947	105,934	263,776	6,317	351,208	19,278	746,072	69.86	321,874	49,850	271,975	15,891
Houston, East & West Texas	190	113,587	47,965	170,484	24,323	16,087	1,887	80,615	3,059	125,961	73.88	214,523	6,428	38,068	—27,188
Houston & Texas Central	948	427,979	198,147	667,668	102,121	83,716	16,903	251,692	16,534	464,439	70.56	203,229	36,363	166,464	—6,432
Indiana Harbor Belt	116	.....	.....	455,302	96,384	90,401	2,034	237,404	11,477	437,699	96.13	17,602	10,691	6,910	—110,873
Kanawha & Michigan	176	406,885	89,671	511,425	41,576	106,624	2,906	140,630	9,220	300,955	58.84	210,470	20,968	189,501	101,856
Kansas City Southern	774	962,829	202,995	1,260,898	140,399	197,290	17,996	433,322	43,928	832,522	66.03	428,377	56,986	371,234	31,399
Lehigh & New England	296	307,982	1,262	322,711	41,815	56,157	2,974	93,399	7,957	202,300	62.68	120,410	9,324	111,088	—15,294
Lehigh Valley	144	4,517,949	495,211	5,449,545	483,701	1,031,782	66,926	2,199,430	86,795	3,832,279	71.26	1,566,266	161,472	1,404,470	122,936
Long Island	398	446,772	1,256,057	1,882,399	176,215	195,228	8,212	677,504	39,246	1,108,998	58.91	773,400	79,652	693,205	348,357
Louisville, Henderson & St. Louis	199	138,000	58,701	206,350	32,966	32,823	4,926	74,704	3,934	149,946	72.67	56,403	3,853	52,550	—18,265
Maryland, Delaware & Virginia Ry. Co.	82	59,113	24,707	86,124	8,855	18,499	—29	52,932	1,380	81,637	94.79	4,487	1,249	3,238	—9,345
Michigan Central	1,861	3,494,871	1,152,969	5,249,070	581,397	771,148	64,899	2,059,631	95,363	3,636,945	69.28	1,612,125	161,200	1,450,407	311,297
Minneapolis & St. Louis	1,646	623,866	148,121	821,524	178,261	175,589	10,925	428,174	24,058	817,133	99.47	4,391	49,410	—45,497	—236,138
Missouri, Kansas & Texas System	3,861	2,505,363	1,181,609	4,012,045	789,805	968,994	38,288	1,554,903	125,184	3,505,179	87.36	506,865	158,639	347,468	—350,276
Missouri, Okla. & Gulf	332	96,835	26,818	130,552	37,203	55,018	2,304	65,669	7,934	168,272	129.89	—37,719	8,479	—46,223	—65,984
Missouri Pacific	7,302	4,631,613	1,554,437	6,749,459	1,194,601	1,335,724	84,587	2,569,609	155,842	5,367,963	79.53	1,381,948	286,107	1,094,632	.....
Mobile & Ohio	1,159	1,020,041	153,390	1,239,624	151,640	315,392	29,611	530,398	32,358	1,059,398	85.46	180,226	42,996	137,018	—145,427
Monongahela	108	255,350	19,853	283,788	45,276	19,803	1,569	74,751	3,919	145,320	51.21	138,468	3,750	134,718	70,888
Nashville, Chattanooga & St. Louis	1,236	986,117	506,573	1,587,616	227,234	338,424	34,919	625,494	39,208	1,275,162	80.31	312,454	33,334	278,860	—53,979
Newburgh & South Shore	15	.....	—1	124,757	15,310	16,540	.....	49,100	2,400	83,351	66.81	41,405	7,304	34,101	28,110
New Orleans & North Eastern	203	321,272	99,559	473,660	45,500	83,304	6,827	160,948	11,676	309,986	65.44	163,674	27,566	136,100	23,853
New Orleans Great Northern	284	133,608	34,498	177,073	19,714	22,564	3,758	55,954	7,192	109,454	62.81	67,619	8,123	59,411	12,935
New York Central	6,079	14,526,405	4,900,491	22,464,875	2,350,359	4,437,059	301,984	8,976,836	495,542	16,864,631	75.07	5,600,244	1,264,464	4,330,480	—382,893
New York, Chicago & St. Louis	572	1,512,237	122,323	1,681,159	190,826	255,821	26,236	682,708	42,479	1,200,917	71.43	480,242	57,500	422,738	187,207
New York, New Haven & Hartford	2,007	3,972,026	2,986,692	8,001,983	870,172	1,525,907	34,786	3,319,482	235,773	6,126,495	76.56	1,875,488	274,000	1,600,384	—469,419
New York, Philadelphia & Norfolk	121	491,907	118,437	664,906	45,193	114,739	15,217	258,490	9,697	457,886	68.86	207,020	14,044	192,976	91,306
New York, Susquehanna & Western	135	297,229	49,045	391,224	32,223	51,349	3,291	195,400	6,965	289,227	73.92	101,997	14,917	86,993	4,811
Norfolk & Western	2,083	5,555,331	770,311	6,572,181	725,043	1,482,285	44,720	2,300,067	107,273	4,570,446	69.54	2,001,736	272,000	1,728,675	54,860
Pennsylvania Company	1,754	5,617,706	1,190,109	7,525,501	1,127,241	1,594,547	74,633	2,948,515	163,508	5,957,623	79.16	1,567,878	285,207	1,282,627	129,437
Pennsylvania Railroad	5,334	19,773,662	7,612,949	30,071,022	3,280,470	6,838,957	278,729	11,751,267	601,435	23,173,825	77.06	6,897,196	874,187	6,019,634	380,668
Peoria & Pekin Union	19	18,055	5,725	103,474	11,528	18,829	51	62,146	3,455	96,010	92.89	7,464	9,453	—1,989	1,499
Pittsburgh & West Virginia	94	104,731	3,567	108,865	26,566	31,999	1,377	40,563	659	101,166	92.92	7,699	3,839	3,860	—125
Pittsburgh, Cincti., Chic. & St. Louis	2,398	4,785,063	1,376,266	6,854,760	777,548	1,682,774	82,744	2,708,828	157,330	5,472,421	79.83	1,382,339	230,640	1,151,682	—185,431
Rutland	415	230,782	78,842	371,317	63,449	49,795	10,730	163,559	8,008	295,541	79.59	75,776	17,562	58,213	7,785
St. Joseph & Grand Island	258	166,852	28,049	207,250	48,569	34,350	1,475	93,092	7,311	185,604	89.55	21,646	8,606	13,040	—52,938
St. Louis, Brownsville & Mexico	548	179,501	84,994	285,212	46,282	48,344	6,091	88,833	12,979	202,530	71.01	82,680	9,945	72,726	—22,291
St. Louis, Merchant's Bridge Terminal	9	.....	437	297,024	42,873	31,993	701	172,935	6,025	254,526	85.69	42,499	8,333	34,158	—57,113
St. Louis-San Francisco	4,761	3,421,560	1,626,389	5,372,437	835,896	1,101,181	47,137	1,956,123	147,290	4,081,324	75.96	1,291,114	221,216	1,068,402	—365,999
St. Louis, San Francisco & Texas	143	78,968	9,154	92,176	10,951	21,310	1,781	49,101	6,228	89,371	96.96	2,805	1,648	1,157	1,443
Seaboard	3,561	1,909,338	949,063	3,006,768	321,974	627,962	57,376	1,162,630	79,699	2,266,663	75.39	740,105	120,162	619,651	11,570
Southern	6,982	5,612,742	3,321,677	9,854,637	950,460	1,718,946	107,996	3,391,649	188,802	6,417,768	65.12	3,436,869	298,454	3,137,559	980,086
Southern in Mississippi	278	54,866	31,290	92,891	16,350	9,874	1,808	48,381	3,949	80,362	86.51	12,528	9,000	3,528	—12,088
Southern Pacific	7,102	6,090,733	3,103,316	12,274,457	1,499,989	1,917,947	120,821	4,803,015	251,945	8,725,497	71.09	3,498,959	584,850	2,912,060	—1,431,407
Staten Island Rapid Transit Co.	23	89,061	66,233	177,723	29,781	20,962	1,179	63,415	7,468	122,807	69.10	54,917	9,000	45,917	37,243
Terminal R. R. Ass'n of St. Louis	36	.....	2,891	306,319	42,470	37,066	721	108,736	2,949	193,953	63.31	112,366	30,383	81,982	—38,892
Texas & New Orleans	469	385,411	153,040	591,167	72,520	91,423	5,267	195,714	11,166	391,539	66.23	199,626	21,948	177,452	—18,694
Toledo & Ohio Central	435	666,800	50,303	781,705	116,368	170,016	9,445	316,311	13,506	627,659	80.29	154,046	31,522	122,511	10,534
Toledo, St. Louis & Western	454	591,157	88,384	709,074	99,943	114,672	9,579	217,099	9,765	450,554	63.54	259,520	19,000	239,520	88,165
Ulster & Delaware	128	59,388	11,943	83,985	11,327	12,158	1,385	46,164	3,766	75,179	89.51	8,807	4,600	4,207	—8,708
Union Pacific	3,630	5,200,701	1,460,126	7,259,594	860,534	1,049,185	56,316	1,793,401	172,958	4,071,004	56.08	3,188,591	288,642	2,899,344	558,751
Union R. R. of Penna	35	.....	.....	607,121	88,466	126,909	296	286,021	5,813	507,505	83.59	99,617	6,680	92,936	113,022
Vicksburg, Shreveport & Pacific	171	113,903	56,374	202,101	21,873	38,874	4,209	69,881	6,632	145,289	71.88	56,811	10,535	46,216	17,325
Virginian	518	899,174	49,154	1,013,549	111,443	177,777	6,229	362,501	12,320	667,192	65.83	346,357	41,245	305,112	—150,783
Wabash	2,519	2,646,154	809,967	3,733,047	501,619	597,429	54,017	1,696,379	88,522	2,954,988	79.16	778,058	112,511	665,370	—353,667
West Jersey & Seashore	359	295,000	449,499	790,970	157,023	124,931	9,852	336,628	17,752	649,895	82.16	141,075	41,054	99,988	—3,896
Western Maryland	707	1,113,459	79,308	1,273,107	162,681	313,969	22,114	501,875	33,015	1,043,666	81.98	229,441	43,200	186,241	—12,112
Wheeling & Lake Erie	511	1,001,974	37,218	1,137,154	179,211	208,632	9,116	394,816	21,748	815,762	71.74	321,392	49,256	272,116	24,795
Yazoo & Mississippi Valley	1,382	1,217,945	290,702	1,582,333	227,232	323,565	13,785	586,277	48,298	1,199,762	75.82	382,571	61,528	320,938	—47,046

REVENUES AND EXPENSES OF RAILWAYS

FIVE MONTHS OF CALENDAR YEAR 1918.

Name of road.	Average mileage operated during period.	Operating revenues			Operating expenses						Operating ratio.	Net from railway operation.	Railway tax accruals.	Operating income (or loss).	Increase (or decr.) comp. with last year.
					Maintenance of										
		Freight.	Passenger.	Total (inc. misc.)	Way and structures.	Equipment.	Traffic.	Transportation.	General.	Total.					
Alabama & Vicksburg	141	$600,447	$230,004	$925,178	$80,319	$168,037	$24,792	$361,597	$33,361	$674,617	72.92	$250,561	$51,133	$194,232	$41,906
Alabama Great Southern	312	2,143,808	831,059	3,180,626	1,244,664	719,738	63,509	1,145,523	66,829	2,254,042	70.86	926,585	104,901	821,094	114,164
Ann Arbor	293	951,073	178,439	1,217,034	203,029	236,749	25,557	613,336	44,538	1,126,414	92.55	90,621	65,500	25,083	—161,697
Arizona Eastern	377	1,459,135	245,895	1,824,471	299,996	226,542	12,371	408,213	77,639	1,052,701	57.69	771,769	85,631	685,976	—294,955
Atchison, Topeka & Santa Fe	8,646	40,989,303	13,730,506	59,495,781	7,395,332	10,616,849	787,464	20,092,333	1,132,716	39,920,462	67.09	19,575,319	2,780,658	16,785,767	—1,369,860
Atlanta, Birmingham & Southern	639	1,292,704	269,866	1,697,144	355,046	375,993	51,898	816,732	61,243	1,661,206	97.88	35,939	78,500	—42,922	—256,244
Atlantic City	170	522,717	509,429	1,105,864	145,339	193,784	7,961	622,451	6,597	976,544	88.31	129,320	60,000	69,320	18,111
Atlantic Coast Line	4,813	14,039,213	6,257,539	21,862,462	2,220,853	3,437,908	272,577	8,438,054	453,786	14,919,339	68.24	6,943,123	880,000	6,059,571	258,654
Baltimore & Ohio	4,948	39,570,056	9,838,979	54,138,764	7,663,358	15,371,650	855,356	27,460,405	1,441,356	53,170,373	98.21	968,391	2,088,480	—1,130,046	—11,016,691
Baltimore & Ohio, Chicago Terminal	79	.....	2,289	648,096	147,066	205,046	4,855	546,203	46,288	958,485	147.88	—310,389	138,903	—449,359	—308,129
Baltimore, Chesapeake & Atlantic	87	241,422	113,102	366,722	36,954	85,501	5,241	243,838	12,494	384,028	104.72	—17,306	12,435	—29,741	29,963
Bangor & Aroostook	632	1,477,471	310,369	1,871,608	296,751	353,964	18,929	729,942	59,286	1,479,136	80.03	392,472	88,675	203,773	—350,850
Beaumont, Sour Lake & Western	118	458,445	159,101	638,185	69,803	62,115	10,366	194,292	20,985	358,562	56.18	279,623	10,750	268,820	130,434
Bessemer & Lake Erie	208	3,410,359	145,808	3,675,649	477,487	1,200,641	60,414	1,517,548	108,257	3,224,966	87.74	450,683	106,404	344,279	—32,502
Bingham & Garfield	36	1,246,632	19,982	1,298,082	180,315	217,674	6,650	241,276	23,618	685,964	52.85	612,118	47,826	564,292	—142,927
Birmingham Southern	44	463,724	6,460	584,977	66,693	156,226	4,615	294,281	19,780	541,595	92.58	43,382	18,241	25,139	12,212
Buffalo & Susquehanna R. R. Corp	352	856,967	28,513	901,539	142,773	254,614	8,694	366,570	37,128	809,779	89.82	91,760	20,500	71,260	—20,987
Buffalo, Rochester & Pittsburgh	584	5,726,703	504,519	6,445,263	824,398	2,059,549	77,690	2,917,364	156,498	6,045,532	93.80	399,732	133,671	265,976	—533,532
Central of Georgia	1,918	5,150,051	2,044,952	8,029,466	1,070,562	1,290,879	164,212	2,810,921	230,314	5,572,331	69.39	2,457,135	321,164	2,134,180	851,522
Central of New Jersey	684	11,259,201	2,609,834	15,339,393	1,286,959	3,494,765	120,510	7,382,233	365,236	12,738,309	83.04	2,601,084	863,577	1,733,370	1,704,139
Chesapeake & Ohio Lines	2,479	18,476,493	3,912,129	24,048,064	2,942,737	5,218,536	240,453	9,022,880	483,162	18,025,559	74.95	6,022,505	725,000	5,296,867	—367,833
Chicago & Alton	1,050	5,661,693	1,928,488	8,175,578	1,142,048	2,034,617	145,566	3,629,011	177,751	7,183,917	87.87	991,661	281,834	708,832	—1,221,855
Chicago & Eastern Illinois	1,131	7,023,235	1,304,782	9,047,246	1,144,258	2,865,890	112,495	3,834,196	237,032	8,223,506	90.89	823,740	380,994	440,058	—994,000
Chicago & Erie	269	3,118,516	238,451	3,696,104	831,004	667,826	77,638	2,067,618	96,051	3,750,099	101.46	—53,996	183,042	—237,071	—1,016,830
Chicago & Northwestern	8,094	27,907,604	9,503,093	41,660,711	6,541,578	8,787,996	461,102	20,095,719	963,361	37,105,934	89.08	4,554,777	2,100,000	2,442,402	—5,010,324
Chicago, Burlington & Quincy	9,373	36,769,869	9,683,080	51,289,224	6,929,101	9,866,487	559,934	20,367,781	1,252,111	39,582,995	77.18	11,706,229	2,439,589	9,266,640	—5,452,074
Chicago, Detroit & Can. Gd. Trk. Jct	60	326,296	47,759	473,933	51,227	102,607	7,446	331,971	10,970	504,221	107.39	—30,288	16,725	—47,118	—86,678
Chicago, Indianapolis & Louisville	657	2,460,383	811,440	3,605,642	426,830	918,744	85,994	1,597,417	114,561	3,146,985	87.27	458,657	158,417	299,848	—646,515
Chicago Junction	12	.....	.....	1,404,813	267,154	147,465	5,275	845,400	35,508	1,442,502	102.68	—37,688	11,394	—49,082	—163,868
Chicago, Milwaukee & St. Paul	10,305	31,924,153	7,800,738	44,454,637	5,469,341	11,717,941	589,697	21,857,626	1,039,683	40,642,749	91.43	3,811,888	2,581,747	1,191,878	—7,323,941
Chicago, Rock Island & Gulf	474	1,234,366	422,830	1,775,731	202,609	250,677	41,132	620,833	47,531	1,168,962	65.82	606,769	65,774	540,786	117,846
Chicago, St. Paul, Minn., & Omaha	1,749	5,965,476	2,167,469	8,780,382	893,065	1,531,372	113,698	4,579,949	236,129	7,418,122	84.48	1,362,260	498,177	862,048	—789,115
Cincinnati, New Orleans & Tex. Pacific	337	3,545,927	1,397,716	5,375,373	423,450	1,395,656	110,836	2,135,070	109,271	4,202,196	78.17	1,173,183	192,075	980,626	—413,397
Coal & Coke	197	399,482	101,192	523,990	102,554	167,631	7,006	256,987	17,900	552,078	105.36	—28,088	25,000	—53,088	—89,155
Colorado Midland	337	567,216	69,424	668,635	158,088	142,399	30,574	434,353	23,402	792,170	129.05	—123,535	34,320	—157,856	*
Colorado & Southern	1,100	3,677,689	757,197	4,757,673	480,987	962,353	44,867	1,670,986	158,454	3,340,692	70.22	1,416,981	235,000	1,181,611	—149,892
Cripple Creek & Colorado Springs	116	326,787	51,926	388,032	31,791	50,104	4,966	126,034	16,034	229,212	60.07	158,820	37,784	125,036	—118,079
Cumberland Valley	163	1,391,204	278,466	1,815,969	181,015	230,307	22,593	662,498	54,153	1,153,171	63.50	662,799	46,046	616,679	—218,367
Detroit & Toledo Shore Line	80	796,536	.....	801,106	46,343	66,757	8,574	273,359	17,572	412,605	51.50	388,501	54,020	334,481	—59,186
El Paso & Southwestern Co	1,028	4,810,384	1,029,438	6,117,205	516,578	826,681	86,251	1,712,449	157,768	3,335,068	54.52	2,782,137	254,927	2,527,092	—289,899
Elgin, Joliet & Eastern	804	5,565,863	53	6,499,996	842,188	1,553,349	36,007	2,604,747	138,269	5,173,163	79.59	1,326,834	253,864	1,072,970	—178,796
Erie	1,989	21,729,695	3,917,645	28,864,104	3,824,984	9,106,325	413,328	15,721,812	751,864	30,022,241	104.01	—1,158,137	1,144,938	—2,305,583	—4,764,990
Fonda, Johnstown & Gloversville	88	124,235	280,314	426,381	42,338	36,292	2,609	143,886	31,940	257,065	60.28	168 316	22,500	145,816	—14,358
Grand Rapids & Indiana	569	1,738,037	552,563	2,504,987	371,482	565,091	48,824	1,172,080	89,589	2,249,022	89.78	255,965	114,985	740,146	—118,522
Hocking Valley	349	3,512,384	349,261	4,071,620	503,873	1,304,759	35,660	1,664,964	99,458	3,606,228	88 56	465,392	249,250	216,028	621,747
Houston, East & West Texas	190	601,642	186,924	836,648	121,615	80,437	9,873	363,474	16,215	591,530	70.70	245,154	32,206	212,706	—58,112
Houston & Texas Central	948	2,462,886	784,669	3,490,676	510,607	418,581	67,598	1,377,951	93,048	2,466,433	70.65	1,024,244	180,046	842,804	45,635
Indiana Harbor Belt	116	.....	.....	1,947,014	434,211	464,491	8,929	1,208,528	55,412	2,171,570	111.53	—224,556	50,470	—275,025	—770,192
Kanawha & Michigan	176	1,436,206	319,201	1,817,896	228,171	508,683	14,263	567,531	42,948	1,361,602	75.89	456,295	94,583	361,712	156,443
Kansas City Southern	774	4,746,674	859,373	6,038,642	551,276	938,523	104,420	2,148,377	191,678	3,931,308	65.10	2,107,334	284,930	1,821,503	166,551
Lehigh & New England	296	1,226,206	7,134	1,291,449	192,011	278,796	23,607	495,867	39,983	1,030,069	79.76	261,379	43,458	217,921	—241,561
Lehigh Valley	144	17,608,165	1,895,814	21,343,916	2,292,880	5,059,958	331,916	11,313,313	452,610	19,508,813	91.40	1,835,104	807,353	1,026,523	—2,300,070
Long Island	398	1,894,219	4,464,195	7,089,667	836,963	950,020	43,677	3,367,347	188,795	5 485,352	77.37	1,604,315	398,260	1,204,158	501,922
Louisville, Henderson & St. Louis	199	732,787	241,528	1,021,828	151,180	142,956	27,980	411,157	20,146	755,230	73.90	266,598	19,471	246,954	—66,592
Maryland, Delaware & Virginia Ry. Co.	82	189,974	79,737	278,542	29,302	62,505	5,301	212,562	7,390	317,061	113.82	—38.519	5,913	—44,432	68,147
Michigan Central	1,861	16,160,510	5,122,287	24,015,340	2,760,534	4,099,685	328,406	10,353,924	437,932	18,333,775	76.34	5,681,565	781,400	4,895,490	1,006,148
Minneapolis & St. Louis	1,646	3,422,972	772,522	4,452,571	733,578	862,313	76,699	2,139,929	118,596	3,931,598	88.29	520,974	246,718	271,436	—638,686
Missouri, Kansas & Texas System	3,861	12,706,093	5,524,878	19,680,427	3,095,963	4,717,848	269,593	8,301,366	669,044	17,197,162	87.38	2,483,266	731,923	1,749,893	—361,999
Missouri, Okla. & Gulf	332	560,755	136,702	732,941	158,461	206,996	12,165	388,542	40,793	807,722	110.21	—74,782	44,479	—119,577	177,204
Missouri Pacific	7,301	23,856,575	7,168,226	33,782,781	4,860,164	6,070,902	539,678	13,115,102	761,519	25,456,113	75.35	8,326,668	1,398,293	6,923,539	.....
Mobile & Ohio	1,159	4,494,236	700,378	5,527,058	666,580	1,492,459	173,214	2,419,706	158,907	4,910,867	88.85	616,191	214,980	399,421	—762,859
Monongahela	108	941,921	91,943	1,062,482	251,670	85,482	5,697	369,349	21,396	733,595	69.05	328,887	18,816	310,069	—43,003
Nashville, Chattanooga & St. Louis	1,236	5,016,593	1,917,504	7,410,297	776,288	1,451,115	221,920	3,167,352	188,865	5,835,203	78.74	1,575,094	166,670	1,407,769	111,093
Newburgh & South Shore	15	.....	3	416,930	60,224	105,153	.....	227,790	13,293	406,460	97.48	10,470	27,770	—17,300	8,129
New Orleans & North Eastern	203	1,591,382	559,997	2,395,845	227,864	389,171	40,706	900,664	56,456	1,625,820	67.85	770,025	146,745	622,776	87,761
New Orleans Great Northern	284	628,357	162,561	829,386	96,297	136,927	16,351	286,456	35,415	572,875	69.07	256,511	42,805	213,355	28,290
New York Central	6,079	64,244,778	21,721,809	99,540,550	11,561,301	22,011,220	1,184,679	44,064,156	2,462,575	82,677,437	83.06	16,863,113	4,738,400	12,113,841	—4,995,176
New York, Chicago & St. Louis	572	6,579,237	414,163	7,231,051	909,852	1,258,974	187,052	3,446,569	201,314	6 019,532	83.25	1,211,518	287,500	923,897	—110,057
New York, New Haven & Hartford	2,007	16,955,453	13,685,756	35,230,575	4,211,186	6,570,626	183,997	16,826,559	1,111,654	29,573,513	83.94	5,657,062	1,370,000	4,280,311	—4,219,372
New York, Philadelphia & Norfolk	121	1,787,809	419,534	2,435,617	202,980	544,440	49,526	1,161,105	52,565	2,070,088	84.99	365,529	69,973	295,555	—23,691
New York, Susquehanna & Western	135	1,185,156	220,829	1,551,323	162,124	215,189	11,383	948,878	33,482	1,370,998	88.37	180,326	74,583	105,654	—137,079

*Began operation June 1, 1917.

REVENUES AND EXPENSES OF RAILWAYS

FIVE MONTHS OF CALENDAR YEAR 1918 (CONTINUED)

Name of road.	Average mileage operated during period.	Operating revenue: Freight.	Passenger.	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures.	Maintenance of Equipment.	Traffic.	Transportation.	General.	Total.	Operating ratio.	Net from railway operation.	Railway tax accruals.	Operating income (or loss).	Increase (or decr.) comp. with last year.
Norfolk & Western	2,083	$23,730,862	$3,342,240	$28,242,901	$3,251,295	$6,990,697	$273,989	$10,227,471	$537,862	$21,351,573	75.59	$6,891,327	$1,360,000	$5,524,792	—$2,914,628
Pennsylvania Company	1,754	21,446,589	5,209,617	29,704,480	5,148,159	7,491,937	395,814	14,587,954	817,168	28,666,419	96.51	1,038,061	1,425,738	—387,721	—2,936,747
Pennsylvania Railroad	5,334	75,986,620	32,030,458	120,830,660	16,819,455	31,693,783	1,240,149	57,067,270	3,108,584	111,877,302	92.58	8,953,358	4,310,709	4,630,441	—15,073,041
Peoria & Pekin Union	19	100,075	29,699	518,168	34,241	91,818	158	333,216	17,022	496,456	95.80	21,712	47,307	—25,594	—18,652
Pittsburgh & Shawmut	94	468,523	19,230	493,244	116,402	126,190	5,928	184,849	16,198	449,566	91.14	43,678	16,489	27,189	—96,117
Pittsburgh, Cincti., Chic. & St. Louis	2,398	20,401,452	6,072,993	29,828,442	3,976,949	7,727,233	432,420	13,525,169	758,932	26,706,032	89.53	3,122,410	1,148,800	1,972,852	—3,283,280
Rutland	415	1,062,447	402,215	1,727,418	245,861	326,075	45,709	884,205	40,620	1,545,632	89.47	181,786	89,148	92,613	—173,836
St. Joseph & Grand Island	258	887,241	147,025	1,092,793	222,851	149,911	12,339	519,794	33,364	941,417	86.14	151,376	43,033	108,320	—38,361
St. Louis, Brownsville & Mexico	548	965,184	439,173	1,527,143	226,942	211,301	42,762	468,153	62,453	1,011,544	66.23	515,599	49,722	464,987	—155,091
St. Louis, Merchant's Bridge Terminal	9	.....	2,057	1,308,689	197,801	131,415	4,189	833,463	28,351	1,195,219	91.32	113,471	40,433	72,995	—229,862
St. Louis-San Francisco	4,761	15,512,480	7,494,376	24,648,061	3,606,384	5,424,734	262,972	9,773,008	690,089	19,729,168	80.04	4,918,893	1,158,002	3,754,321	—2,420,958
St. Louis, San Francisco & Texas	143	537,855	58,733	630,329	61,770	107,331	9,427	241,754	29,383	449,665	71.33	180,664	8,229	172,193	143,365
St. Louis Southwestern	968	4,226,629	885,008	5,351,293	475,425	841,786	140,656	1,431,437	161,075	3,062,778	58.23	2,288,515	196,658	2,090,989	213,464
Seaboard	3,561	8,821,525	4,234,652	14,381,920	1,459,114	2,842,566	333,490	6,064,021	399,434	11,209,050	78.93	3,172,870	598,232	2,571,879	—899,989
Southern	6,982	26,432,766	14,055,662	44,461,218	4,533,007	7,669,789	635,152	16,358,316	925,189	30,379,864	69.33	14,081,354	1,514,202	12,559,107	2,842,913
Southern in Mississippi	278	294,512	194,888	534,366	105,975	51,215	11,301	247,749	19,507	435,746	81.54	98,620	45,000	53,609	33,418
Southern Pacific	7,102	38,513,827	14,963,823	58,489,149	7,499,946	9,589,733	727,578	24,550,326	1,305,626	44,569,748	76.20	13,919,401	2,861,303	11,048,646	—4,620,330
Staten Island Rapid Transit Co	23	251,376	259,872	571,833	120,535	97,836	5,790	317,729	34,817	576,707	100.85	—4,875	45,000	—49,892	—121,137
Terminal R. R. Ass'n of St. Louis	36	.....	13,315	1,432,251	267,311	163,370	4,328	605,347	22,644	1,074,970	75.05	357,282	147,250	209,989	—339,907
Texas & New Orleans	469	1,985,616	706,107	2,945,139	362,604	457,120	34,972	1,030,063	57,452	2,028,786	68.88	916,353	111,552	803,466	32,161
Toledo & Ohio Central	435	2,750,760	245,579	3,177,976	577,263	809,538	35,899	1,548,133	62,394	3,042,443	95.73	135,533	131,798	3,708	—279,727
Toledo, St. Louis & Western	454	2,588,736	214,832	2,925,129	439,536	546,986	71,823	1,092,222	29,098	2,199,001	75.17	726,128	109,200	616,928	—16,811
Ulster & Delaware	128	200,401	36,262	325,571	47,469	54,363	1,397	201,545	18,048	328,924	101.02	—3,354	23,000	—26,339	—47,484
Union Pacific	3,630	23,240,132	6,129,569	32,409,881	3,748,719	5,430,236	392,374	9,694,192	925,282	20,876,728	66.41	11,533,153	1,443,210	10,087,960	1,943,091
Union R. R. of Penna	35	.....	.....	2,191,714	250,826	844,641	1,418	1,410,520	30,090	2,537,451	115.77	—345,737	27,893	—373,630	—274,531
Vicksburg, Shreveport & Pacific	171	606,504	286,733	1,016,346	102,298	178,623	26,016	327,024	32,461	682,586	67.26	333,760	48,946	284,613	67,776
Virginian	518	3,659,679	223,098	4,164,246	431,371	818,181	29,867	1,678,943	74,732	3,035,649	73.21	1,128,597	263,985	924,590	—749,329
Wabash	2,519	11,366,562	3,253,013	15,940,394	1,889,205	2,971,764	320,656	8,125,918	410,971	13,817,705	86.68	2,122,690	554,807	1,566,777	—2,604,855
West Jersey & Seashore	359	1,098,848	1,734,720	3,056,134	745,626	578,404	40,403	1,621,272	89,646	3,099,166	101.42	—43,032	204,212	—249,692	—282,144
Western Maryland	707	4,723,728	359,134	5,422,619	791,256	1,490,007	93,786	2,457,124	153,336	5,035,164	92.85	387,455	216,000	171,455	—1,073,749
Wheeling & Lake Erie	511	3,842,390	161,109	4,342,443	688,944	1,010,549	38,593	1,820,566	115,663	3,684,888	84.85	657,555	246,057	410,954	—435,984
Yazoo & Mississippi Valley	1,352	6,100,296	1,685,528	8,151,697	1,080,721	1,538,947	81,209	2,890,912	211,317	5,808,856	71.25	2,342,841	307,640	2,034,370	418,311

Holiday Traffic on the Long Island

On the fourth of July and the four other days of heavy traffic incident to the celebration, the Long Island Railroad carried 1,121,560 passengers, or about 10 per cent more than the number carried one year ago, and considerably more than ever before in a similar period. The number of passenger train movements in the five days, 4,857, was slightly less than last year, and something like 10 per cent less than in 1916 and previous years. Records of this holiday movement have been kept for five years and in each of the five the average delay to passenger trains was less than four minutes, except in 1916, when it was four minutes 33 seconds.

Curtailment of Non-War Industries

Further curtailment of the activities of non-war industries is contemplated by the authorities at Washington. The Fuel Administration order of July 3 cutting down the fuel allowance to breweries, according to a statement issued by Dr. Garfield, is merely another step in the program of curtailment of non-war industries begun several months ago. This is necessary in order that coal may be immediately delivered to war industries and to consumers in sections of the country remote from the mines. The railroads report that 200 more cars can be daily passed through the New England gateways, provided the coal can be furnished, and that it is imperative that advantage be taken of this opportunity, because two-thirds of New England's coal supply goes in by water and after winter sets in shipments are greatly reduced. The order was issued after conference with a special committee appointed by the President to consider the reduction of activities in non-war industries to save raw materials, food, labor and transportation. This committee recommended the appointment of another committee, which includes Edward Chambers, director of the division of traffic of the Railroad Administration, to study each industry with a view to ascertaining what curtailment can be made and to report to the priorities board from time to time. The priorities board in turn will advise the various administrative departments to take such action as will effectuate its recommendation.

A Record Freight Movement

The number of freight cars passing Columbia, Pa., on the Pennsylvania Railroad in the 24 hours of June 20, was 9,531, which is 358 more cars than on the largest preceding day. The total movement for the month of June was 250,322 cars, as follows:

	Eastbound	Westbound
Loaded	106,342	32,190
Empty	4,589	107,201
Total	110,931	139,391

The average daily movement in June, 8,344 cars, would make a train 70 miles long, or roughly, a westbound train 35 miles long, and an eastbound train the same length. Another calculation would show a car moving eastward, on the average, once every 20 seconds and a westbound movement of the same frequency.

It is believed that the movement of June 20 stands as the world's record for the greatest number of freight cars ever moved past a given point in twenty-four consecutive hours on any railroad, American or European. The large westbound movement of empties in June reflects the war conditions which have greatly increased export freight traffic and at the same time have reduced import freight almost to zero. An overwhelming proportion of the enormous eastbound traffic originated on the Pennsylvania and its branches between Harrisburg and Pittsburgh. It consisted in large part of the iron and steel products of the Pittsburgh industrial region, coal from the mountains in central Pennsylvania and coke from the many ovens in the same region; shipplates and other material for vessel construction in the tidewater yards, supplies for the building of new ship yards and other war industrial plants, raw and semi-finished materials to keep the eastern munition plants in full operation, and fuel for the eastern industries and for the ships which are keeping up the vital line of communication with Europe.

The Black Tom Explosion

The disastrous explosion at the Lehigh Valley freight terminal, New York City, on July 30, 1916, is the basis of a suit which has been filed at Trenton, N. J., by the Bethlehem Steel Corporation against the railroad company for $2,920,213, the value of 19 carloads of munitions destroyed in that explosion. The plaintiff charges disobedience of the government rules regulating the storage and care of explosives, and also that the railroad company was grossly negligent under the common law, failing—

To provide careful men to handle the cars at the Black Tom.

To provide proper fire apparatus and equipment.

To take reasonable precautions against fire.

To use reasonable diligence in providing safe storage.

To use reasonable diligence in keeping unauthorized persons from having access to the explosives.

To take reasonable precautions to safeguard the immense quantities of explosives continually in its charge.

American Train Despatchers' Association

This association, successor to the Western Train Despatchers' Association, formed last year on the Pacific Coast, held a convention at Spokane, Wash., on June 11, 12, 13, 14 and 15. The officers of the association for the ensuing year are: President, J. G. Luhrsen, Great Northern; vice-president, Robert Firth, Northern Pacific; secretary, C. L. Darling, Northern Pacific, Spokane, Wash. The pamphlet issued by the association after the meeting shows a membership of 1,427, including 161 chief despatchers. Among the eastern roads represented in the membership are the Atlanta, Birmingham & Atlantic, the Baltimore & Ohio, the Delaware & Hudson, the Florida East Coast, the Grand Trunk, the Illinois Central, the New York Central, the Pennsylvania, the Rutland, the Southern, and the Wabash. One of the principal aims of the new association is declared to be to get all railroads to give train despatchers one day of rest in every seven days. It was voted to hold the next meeting at Chicago in June, 1919, the date to be fixed by the executive committee. A resolution was adopted expressing "the warmest sentiments of fraternity" and good wishes toward the members of the Train Despatchers' Association of America.

United States Highways Council

All functions of the various government agencies so far as they relate to streets and highways have been co-ordinated in a body called the United States Highways Council, composed of one representative each from the War Department, the Department of Agriculture, the Railroad Administration, the War Industries Board, and the Fuel Administration. These representatives, under designation by the heads of their respective departments, selected L. W. Page, as chairman, and J. E. Pennybacker, secretary. The member on behalf of the railroad administration is G. W. Kirtley. The council was formed primarily to prevent the delays, and loss incident to taking up each highway problem in its turn with a separate and distinct government agency. This council utilizes the organizations of the 48 state highways departments, and provides a single agency in the nature of a clearing house where all highway projects calling for governmental action of any character may be considered.

The Railroad Administration will, of course, have a vital influence, as vast quantities of crushed stone, gravel, sand, cement, brick, steel, and bituminous materials are required to be transported by rail. The Car Service Section has issued an order which provides for appeal to the director of the Office of Public Roads through the state highways departments, where transportation needs are urgent and the local railroads cannot handle the situation. The director in turn brings the appeal before the central Highways Council for appropriate action.

Revenues and Expenses of Express Companies for January, 1918

The Interstate Commerce Commission has issued the following statement, subject to revision, compiled from the monthly reports of operating revenues and operating expenses of the principal express companies for January, 1918:

Item	Adams Express Co.		American Express Co.		Canadian Express Co.	
	1918	1917	1918	1917	1918	1917
Mileage of all lines covered (miles)	48,606.16	45,165.92	73,083.87	73,409.07	12,447.14	12,049.93
Charges for transportation	$4,323,865	$3,808,099	$5,839,305	$5,128,455	$356,998	$314,545
Express privileges—Dr.	2,157,246	1,893,777	2,956,869	2,580,778	187,807	172,753
Operations other than transportation	42,136	61,062	267,177	277,289	13,837	11,845
Total operating revenues	2,208,755	1,975,384	3,149,613	2,824,966	183,028	153,637
Operating expenses	2,875,943	2,150,680	3,853,930	2,800,497	208,503	164,309
Net operating revenue	*667,187	*175,296	*704,317	24,468	*25,474	*10,672
Uncollectible revenue from transportation	1,219	977	1,141	2,208	1,644	153
Express taxes	25,280	21,244	47,186	38,879	5,000	7,000
Operating income	*693,688	*197,518	*752,645	*16,619	*32,119	*17,826

Item	Great Northern Express Co.		Northern Express Co.		Southern Express Co.	
	1918	1917	1918	1917	1918	1917
Mileage of all lines covered (miles)	9,095.25	10,060.29	8,290.39	8,294.45	34,918.30	34,861.60
Charges for transportation	206,881	232,020	216,067	217,968	1,749,003	1,639,804
Express privileges—Dr.	126,199	140,966	128,114	121,103	906,378	851,209
Operations other than transportation	3,765	4,227	3,142	3,297	26,910	38,402
Total operating revenues	84,448	95,282	91,095	100,163	869,536	826,997
Operating expenses	90,345	107,183	111,277	92,909	750,487	663,762
Net operating revenue	*5,896	*11,901	*20,182	7,254	119,048	163,235
Uncollectible revenue from transportation	29	23	10	58	165	187
Express taxes	5,739	4,365	8,000	6,000	29,253	16,801
Operating income	*11,665	*16,289	*28,192	1,195	89,630	146,246

Item	Wells Fargo & Co.		Western Express Co.		Total for companies named	
	1918	1917	1918	1917	1918	1917
Mileage of all lines covered (miles)	115,409.67	107,089.19	5,236.90	5,253.32	307,087.68	296,183.77
Charges for transportation	4,838,786	4,078,645	114,728	105,529	17,645,638	15,525,070
Express privileges—Dr.	2,490,195	2,118,100	54,100	51,982	9,006,913	7,930,672
Operations other than transportation	102,850	103,342	3,190	3,402	463,012	502,870
Total operating revenues	2,451,440	2,063,886	63,818	56,949	9,101,737	8,097,268
Operating expenses	2,618,355	2,029,677	68,183	60,911	10,577,027	8,069,934
Net operating revenue	*166,914	34,208	*4,364	*3,962	*1,475,290	27,334
Uncollectible revenue from transportation	1,629	1,062	6	3	5,846	4,675
Express taxes	34,851	38,670	1,308	1,821	156,621	134,782
Operating income	*203,395	*5,524	*5,679	*5,787	*1,637,757	*112,123

* Deficit or loss.

Traffic News

G. A. Tomlinson, federal manager of New York State Canals, under the Railroad Administration, has been appointed also to have charge over the Delaware & Raritan canal (Pennsylvania Railroad, lessee), which has been taken over by the Federal Administration.

The union city ticket offices in New York are not being opened with the promptness that was promised; and most of them, it appears, will be opened about August 1. The window of the office at the corner of Chambers street and Broadway contains a placard saying that the place will be ready for business about July 25.

Frank E. Herriman, Manager of Coal Development of the New York Central Lines, who was recently appointed vice-president of the Clearfield Bituminous Coal Corporation, has been elected president of that corporation, succeeding A. H. Smith, Regional Director of Eastern Railroads. John Carstensen has been appointed vice-president in place of Mr. Herriman.

The Car Service Section, in a circular to the railroads, calls attention to the fact that binder twine is important in connection with the grain harvest; ammonia cylinders are important in connection with food conservation in order to promptly transport ammonia for refrigeration purposes, and canning machinery is very essential in connection with the government's food conservation program. Therefore, arrangements should be made to accept and move promptly all shipments of these commodities.

C. R. Custer, general advertising agent of the Chicago & North Western; W. H. Simpson, general advertising agent of the Atchison, Topeka & Santa Fe; and T. T. Maxey, advertising agent of the Chicago, Burlington & Quincy, have been appointed members of an advisory advertising committee to assist the Western Passenger Traffic Committee, at Chicago. C. A. Searle, general baggage agent and manager of mail traffic of the Chicago, Rock Island & Pacific at Chicago, has been appointed to assist the Passenger Traffic Committee in matters affecting train schedules.

Reduction of the quantity of baggage carried by traveling salesmen in order to meet the shortage of baggage cars has been requested of all dry goods wholesalers by the conservation division of the War Industries Board. It is estimated that there are only 9,700 baggage cars in the country, in which it is estimated 24,000,000 sample trunks were checked last year. This was equivalent to 30 per cent of the total baggage carried free by the railroads. During the last few months many baggage cars have been converted into dining cars for troop trains and it has been necessary to use freight cars for baggage. Their ruse, however, has resulted in delays caused by hot boxes and consequently a reduction in the number of salesmen's trunks handled will facilitate the movement of troops.

The Food Administration has requested that, beginning at once, reports be made to it by all Southern District railways of loss of and damage to foodstuffs due to improper or insufficient containers, so that steps may be taken looking toward the conservation of the resources of the country. This is the salient point in a circular issued by W. S. Battle, Jr., general claim agent of the Norfolk & Western, calling on the agents of the company to embrace every opportunity to avoid waste and promote economy. He calls for reports showing the commodity, name of shipper, point of origin, name of consignee, destination, the character of the packages, the extent of the loss and, so far as can be determined, the causes of the trouble. "Do not think because you are but one of many that your assistance will not amount to much. Remember the motto of our nation. The same applies to individuals. Let us all work and pull together. Think what a grand result can be accomplished by the 30,000 employees of this railway working together shoulder to shoulder for our government, our country, and the boys Over There. Watch carefully the freight received and delivered by you. If it is damaged make a full report on the regular form (F. C. A. 126) and give all the facts; and also give your suggestions as to how to avoid similar losses and damages in the future."

The director of traffic of the Railroad Administration has authorized the modification of the increase in rates on petroleum oils, carloads, as required under General Order No. 28, and tariffs will be filed as soon as possible, effective on one day's notice, making the increased rates uniformly 4½ cents higher than the rates in effect on May 25, 1918, instead of 25 per cent higher, except that the increased class rates for the ratings provided in the Official, Western and Southern Classifications will not be exceeded. Producers of copper and other bullion metals were given a hearing on July 11 to protest against the increased rates on those commodities because the government has fixed their prices. The Indiana railroad commission has also submitted a complaint that the adjustment of rates under General Order No. 28 unduly prejudices Indiana and favors Illinois.

Coal Production

The observance of July 4 caused bituminous coal production during the week of July 6 to decrease 2,081,000 net tons or approximately 17 per cent. The total output (including lignite and coal made into coke) is estimated at 10,259,000 net tons as against 12,340,000 net tons during the week preceding and 9,241,000 net tons during the current week of 1917. The average production per working day (five day week) is estimated at 2,052,000 net tons, slightly lower than the average production per working day during the week of June 29 of 2,057,000 net tons and 11 per cent greater than average production per working day during the week of July 6, 1917.

Anthracite shipments during the week of July 6 decreased 10,148 carloads or 25 per cent, the total movement amounting to 31,493.

Freight-Rate Information in New York City

B. Campbell, chairman of the Freight Traffic Committee, eastern Region, announces that within a few weeks information regarding freight rates heretofore supplied in New York City by "off line agencies" of roads formerly having representation in New York, will be furnished by the initial lines, as below:

Baltimore & Ohio, S. A. Allen, general freight agent, 295 Broadway.	Chic. & Northwestern. Cinn., Ind. & Western. Missouri, Kan. & Texas. St. Louis & San Fran. St. Louis South Western . Seaboard Air Line. Western Maryland.
Central of N. J., J. McDonough, general Eastern freight agent, 143 Liberty street.	Louisville & Nashville. Nash., Chat. & St. L. Norfolk & Western.
Delaware, Lackawanna & Western, J. J. Byrne, general eastern freight agent, Woolworth Building.	Chicago Gt. Western. Denver & Rio Grande. International & G. Northern. Missouri Pacific. Northern Pacific. Texas Pacific. Western Pacific.
Erie Railroad. W. S. Cowie, general Eastern freight agent, 399 Broadway.	Atchison, Topeka & Santa Fe. Colorado Midland. Kansas City Southern. K. C., Mex. & Orient. Los Ang. & Salt Lake. Toledo, St. L. & Western.
Lehigh Valley. Fred E. Signer, general Eastern freight agent, Woolworth Building.	Chic., Milw. & St. Paul. Great Northern. Illinois Central. Mobile & Ohio. Pere Marquette. Wabash.
New York Central. Ira H. Hubbel, assistant freight traffic manager, Woolworth Building.	Chic., R. Island & Pac. Chic., Ind. & Louisville. Cleve., Cinn., Chic. & St. Louis. El Paso & So. Western. Lake Erie & Western. Minn. & St. Louis. Union Pacific System.
N. Y., O. & Western. Fred Bergheim, gen'l Eastern agent, 377 Broadway.	Chic., Peoria & St. Louis. Ann Arbor. Chic. & Eastern Illinois. Chicago & Alton.
Pennsylvania. A. B. Scott, district representative Woolworth Building.	Atlantic Coast Line. Atlanta & West Point. Chesapeake & Ohio. Chicago, Burl. & Quincy. Colorado Southern. Georgia. Norfolk & Southern. Southern Rwy. System. Western of Ala.

Commission and Court News

Interstate Commerce Commission

The fifteenth section application filed by Randall Clifton, chairman of the Southern Freight Rate Committee, for authority to increase refrigeration rates on shipments of berries, melons, domestic fruits and vegetables, from points of origin south of the Ohio and Potomac rivers and east of the Mississippi river, to all points of destination in the United States and Canada has been assigned by direction of the Commission to the formal docket and will be set for hearing.

The commission has issued an order making the Director General of Railroads a respondent in the railway mail pay case, in which the commission is making a general investigation of the rates and basis for compensating the railroads for handling United States mails; and the commission has assigned the proceeding for hearing on November 4, at Washington, before Attorney-Examiner George N. Brown. A large amount of statistical evidence has been collected in connection with the investigation, and a statement of the postmaster general showing the transportation required of all railway common carriers has been filed with the commission.

The following Conference Ruling has been adopted by the commission:

The Supreme Court of the United States in *U. S. ex rel.* v. *Interstate Commerce Commission* decided on April 29, 1918, held that the right to recover reparation on account of unlawful freight charges accrues when they are paid, and not upon the delivery of the shipment as held by the commission in *Blinn Lumber Co.* v. *S. P. Co.*, 18 I. C. C., 430. The commission will therefore entertain petitions for the reconsideration of any such formal or informal claims that were filed within two years from the time the charges were paid and were denied by the commission under the ruling of the *Blinn* case. Such petitions should be filed not later than December 31, 1918. Modifying Conference Ruling 508.

State Commissions

The Public Service Commission of New York, second district, has issued a decision allowing the New York Central to increase from 25 cents to 50 cents its charge per car for weighing cars on a shipper's track scales. The railroad presented figures showing that, in 1908, when the 25-cent rate was prescribed, the actual cost of weighing a car was 35 cents; and that now it costs much more than that.

The Public Utility Commissioners of New Jersey, denying an application for authority to make a general increase in fares, has authorized the Public Service Railway Company, operating extensive electric lines in the northern part of the state, to charge one cent for each transfer issued to a passenger who has paid five cents. The petition for authority to make a general increase was bitterly opposed by the New Jersey League of Municipalities, said to comprise representatives of 146 cities and towns. In granting the right to charge for transfers the commissioners require the company to make monthly reports showing in much detail the income from fares, and the expenses of operation; and, further, it is proposed that a zone system of fares be devised.

Public Service Commissioners of all of the six New England states met in conference at Boston on July 16 to consider questions relating to the recent increases in freight rates; whether the general level is too high; whether the increases on coal and certain other commodities are reasonable; whether passenger rates ought to be readjusted, and other details. Edgar J. Rich, formerly general counsel of the Boston & Maine, appeared before the conference, in behalf of the Associated Industries of Massachusetts, to complain that the rates which have been fixed by the director general for the transportation of freight are unjustly discriminatory against New England. Mr. Rich declared that these freight rates had been fixed after political and sectional pressure had been brought to bear on the director general.

Personnel of Commissions

A. J. Maxwell has been appointed a member of the North Carolina Corporation Commission in place of E. L. Travis. Mr. Maxwell has been clerk of the commission for the past eight years.

Alonzo G. Pack has been appointed chief inspector of locomotives, for the Interstate Commerce Commission (not for the Railroad Administration) as noticed in this paper, last week. Mr. Pack was born on July 22, 1865, at Princeton, W. Va. His first 15 years were spent on a farm, and in 1880 he entered the service of the Norfolk & Western on construction work. In 1882 he went to the Chesapeake & Ohio, as an apprentice in the boiler shop. He also served on that road as a brakeman. In 1887, he went to Denver, and worked for the Union Pacific and the Denver & Rio Grande, as locomotive fireman. In 1895, he became connected with the Colorado Midland as an engineman. In 1900, he went to the Colorado Springs & Cripple Creek, serving as locomotive engineman, until 1911, when he was appointed district inspector of locomotive boilers, of the Interstate Commerce Commission, with headquarters at Denver, Colo. In 1914, he was promoted to assistant chief inspector, and now becomes chief inspector of locomotives, with headquarters at Washington, D. C.

A. G. Pack.

Wilfred P. Borland, who has recently been promoted from assistant chief to chief of the Bureau of Safety of the Interstate Commerce Commission, succeeding H. W. Belnap, appointed manager of the Safety Section of the Railroad Administration, has been in the service of the Interstate Commerce Commission for 16 years, having become identified with its safety appliance work when it was first established under the late secretary of the commission, E. A. Moseley. Mr. Borland entered railroad service in 1876 as a brakeman on the Flint & Pere Marquette, and in about a year became fireman. He was later fireman and engineman on this road, the Denver & Rio Grande, and the Northern Pacific, making a total of about 20 years in railroad service, which he left in 1896. He was then a stenographer at the Mare Island Navy Yard, and became connected with the Interstate Commerce Commission in 1902. He was for a number of years inspector clerk in the safety appliance department, and later was secretary of the Block Signal and Train Control Board. On February 5, 1914, he was appointed assistant chief inspector of safety appliances.

W. P. Borland.

W. H. Harland has been appointed senior electrical engineer of the Interstate Commerce Commission, Bureau of Valuation, Eastern District, engineering section, succeeding Milan V. Ayres, resigned to accept an appointment as major in the National Army. Mr. Harland will have charge of the electrical, signal, telegraph and telephone branches.

John M. Hall, formerly district inspector of locomotive boilers for the Interstate Commerce Commission and recently supervisor of equipment in the locomotive section of the Railroad Administration, has been appointed assistant chief inspector of locomotive boilers of the Interstate Commerce Commission, succeeding A. G. Pack, promoted to chief inspector.

Court News

Contributory Negligence of Passenger at Station

In an action for personal injuries it appeared that the plaintiff, proposing to take a train operated by one of the defendant's tenant companies went to the station a few minutes before train time. The waiting room of the station opened upon an inclosed space separated from the tracks by a high iron fence equipped with sliding gates, which could be locked and were in charge of a gateman. The gateman went into the waiting room and announced the train, passed through the crowd of passengers in the enclosure, unlocked the gate near which the plaintiff was standing, went through, and stood on the other side. As the approaching train slackened, a woman near the gate opened it and the passengers went through. About the time the train stopped, a switch engine, with headlight burning and bell ringing, approached on the track next to the inclosure. The plaintiff went through the open gate and started to cross the near track diagonally, with his back towards the engine, and was struck by its beam. One of the defenses was the plaintiff's contributory negligence, but the trial court charged the jury that the evidence of it was not sufficient to submit to them. On appeal, the Circuit Court of Appeals, Eighth Circuit, held that, while the plaintiff was a passenger, yet as he was complete master of his movements and his powers of observation, unlike a passenger on a train, it was improper to declare, as matter of law, that he was free from contributory negligence, but that question should have been submitted to the jury.—St. Louis Merchants' Bridge Terminal R. Co. v. Munger, 246 Fed., 938. Decided October 29, 1917.

Recovery of Charges for Disinfecting Cars

The consignee of an interstate shipment of 58 cars of live stock to New Orleans paid all the charges except those for disinfecting. In an action for these he denied liability on the ground that the railroad knew or should have known that he was a factor or commission merchant; that immediately on the arrival of the live stock he sold it, deducted expenses, etc., and remitted the balance of the proceeds to his principals; that when the cars arrived he paid all charges demanded; that having led him to believe the amount then asked and paid was in full settlement, the railroad was estopped from demanding more of him. The federal district court for the Eastern District of Louisiana upon its own initiative dismissed the action for want of jurisdiction. The Judicial Code provides that district courts shall have original jurisdiction "of all suits and proceedings arising under any law regulating commerce." The Interstate Commerce Act requires the carrier to collect and the consignee to pay all lawful charges duly prescribed by the tariff. In support of the trial court it was said: There is no jurisdiction unless the suit in part at least arises out of a controversy in regard to the operation or the effect of the act of Congress. The Supreme Court of the United States holds that the district court had jurisdiction. The railroad company set up a claim based on provisions of a tariff duly filed, published and approved as required by the Interstate Commerce Act; the result of the action necessarily depended upon the construction and effect of that act. The judgment was accordingly reversed and the cause remanded.—L. & N. v. Rice. Decided May 20, 1918.

Supply Trade News

The Cleveland Frog & Crossing Company, Cleveland, Ohio, recently obtained a permit to construct a storage building 40 by 60 ft. to cost approximately $3,000.

The Edison Storage Battery Supply Company has moved its New Orleans office from 201 Baronne street to larger and more commodious quarters in the Maison Blanche building, Room 911.

Robert Brown Carnahan, Jr., vice-president of the American Rolling Mill Company, Middletown, Ohio, was accidentally killed on June 22. He was educated at the University of Pittsburgh, graduating with the class of 1891. Upon the completion of the university work he became associated with the Dewees-Wood Company at McKeesport, Pa., where he was engaged in research work in connection with gold mine prospects. He remained with that concern until 1899 when he went with the Carnegie Steel Company at its Homestead works, where he was engaged in special work in connection with the manufacture of open hearth steel. In 1900 he entered the service of the American Rolling Mill Company as chief chemist and open hearth superintendent at what is now known as its Central works. Under Mr. Carnahan's direction the Armco American ingot iron was developed.

R. B. Carnahan, Jr.

James M. Hopkins, chairman, Camel Company, Chicago, has accepted a position with the Priorities Committee of the War Industries Board. Mr. Hopkins will reside in Washington.

The United States Metallic Packing Company, Philadelphia, announces that it no longer represents the Watertown Specialty Company for the sale of that company's automatic cylinder cock.

Charles R. Hook, vice-president of the American Rolling Mill Company, at Middletown, Ohio, has been elected a director of that company, succeeding the late **J. G. Battelle,** of Columbus, Ohio.

The Bird-Archer Company has moved its Chicago office from Room 866 to Room 1105 Peoples Gas building, to obtain larger space. This company has recently established a plant in Chicago and one at Cobourg, Ont.

The Certes Supply Company, located at the Frisco building, St. Louis, Mo., has been appointed district sales agents for the Track Specialties Company. T. D. Kelley is president and Patrick T. Kilgarriff is vice-president. The J. S. Morrison Company located at the Oliver building, Pittsburgh, Pa., has been appointed Pittsburgh representative.

At a meeting of the board of directors on June 28, **George W. Wildin** was elected general manager of the Westinghouse Air Brake Company, vice **A. L. Humphrey,** resigned. Mr. Humphrey continues as ranking vice-president, and in that capacity will as heretofore have general direction of the company's operations in all departments and subsidiary organizations, Mr. Wildin reporting to him. As general manager of the Locomotive Stoker Company, Mr. Wildin has been succeeded by **D. F. Crawford,** formerly general manager of the Pennsylvania Lines West, who was elected

vice-president and general manager of the Stoker Company. At the same meeting of the Stoker Company, **N. M. Lower** was elected assistant general manager. Sketches and portraits of Mr. Wildin and Mr. Crawford appeared in the *Railway Age* of April 5 and June 21 respectively.

Ray Frazer, general manager of the Lyle Corrugated Culvert Company, Minneapolis, Minn., died on June 17, ten days after meeting with an injury in an automobile accident. Mr. Frazer was born at Pleasant Town, near Topeka, Kan., on December 9, 1882. Five years later he moved to Lyle, Minn., where he received his early education. He entered Carleton College, Northfield, Minn., in 1899, where he remained for two years. After spending several years in the drug business he became connected with the Lyle Corrugated Culvert Company as manager. Upon the removal of the headquarters of that company to Minneapolis, he was made general manager of all of the company's activities. One of his recent developments has been the metal sign business, he becoming actively interested three years ago in the design and building of the machines now being used for the manufacture of Lylesigns.

Clinton C. Murphy, vice-president of the P. H. Murphy Company, and the Standard Railway Equipment Company, of Chicago, died on July 13, in that city. Mr. Murphy was born at Cumberland, Md., on June 5, 1875, and was educated at the Smith Academy, at St. Louis, Mo. After completing his education he entered the employ of the Cairo Short Line as a machinist's apprentice. In 1898 he entered the railway supply business as a representative of the Murphy Roofing Company at St. Louis, following which he moved to Chicago, on his election as vice-president of the Standard Railway Equipment Company. In 1915 he organized and was made president of the Union Metal Products Company. He was also interested in the Imperial Appliance Company and the Pressed Steel Manufacturing Company, both of Chicago.

C. C. Murphy

A Fusse is a Mighty Dangerous Thing to pack a hot box with. This is the text of a circular which has been issued by the safety engineer of the Grand Trunk, to tell of an engineman and a brakeman who used powder taken from fusees to cool hot journals. This is characterized as the latest fashion in getting hurt, a fashion which all employees in Canada are reminded to steer clear of. A fusee contains potassium perchlorate, sulphur, charcoal and a lot of other things that do not get along well together in a hot box. A fusee is a safety device when burning on the track, but a death device when burning in a hot box.

British Control of Road Transport.—The British Board of Trade has issued the Road Transport Order, 1918, by which all persons owning or having in their possession or under their control any horse or vehicle which is used for the transport of freight by road shall, before July 31, make a return in the form provided. This return must be sent to the secretary of the Road Transport Committee for the area in which the horse or vehicle is usually kept. Before disposing of any horse or vehicle referred to in the return notice must be given in writing, and after September 1 no person shall use any horse or vehicle that is being used for road transport except in accordance with the terms of a permit granted by the Road Transport Board. The order does not apply to horses or vehicles used wholly or mainly in agriculture or to horse-drawn vehicles having a load capacity of less than 15 cwt.—*Railway Gazette, London.*

Railway Construction

Canadian Pacific.—This company is lining its Connaught (B. C.) tunnel at a cost of approximately $250,000. The Carter-Hall-Aldinger Company, Limited, Winnipeg, Man., has the contract for the work.

Chicago, Burlington & Quincy.—This company will build a bridge across the Platte river at Bridgeport, Neb., to cost approximately $150,000. The foundations will be built for double track, but only a single track superstructure will be erected at the present.

Chicago & North Western.—This company has given a contract to the C. W. Gindele Company, Chicago, for a 20-stall roundhouse to be built at Fond du Lac, Wis.

Pennsylvania-Detroit Railroad Company.—This company has bought property for a large freight depot at Detroit, Mich., but on account of war conditions has postponed construction work indefinitely. The property extends from Third to Sixth streets and from Congress to Larned streets.

Pennsylvania Lines West.—This company has awarded a contract to the Austin Company, Cleveland, Ohio, for the construction of engine terminals at several points on that system. This work will include a roundhouse of steel construction with reinforced concrete roof and 75-ft. bridge cranes, which will be provided with smoke exhaust and washing systems. The first structure of this type will be erected at Crestline, Ohio, and will be a 30-stall house costing approximately $500,000, which is to be completed in 120 days. It is planned to begin similar work at Richmond, Ind., in the near future. The Austin Company has also been awarded a contract for the construction of a locomotive erecting and machine shop, 200 ft. by 420 ft., at Logansport, Ind., costing approximately $600,000, which is to be built according to the designs and specifications of the Austin Company. This shop, which will be equipped with a 250-ton bridge crane, is also to be completed in 120 working days.

Philadelphia & Reading.—A contract has been given to D. S. Warfel, Lancaster, Pa., for putting up a new machine shop at Rutherford, Pa. The building is to be a one-story structure, 20 ft. wide by 158 ft. long, of brick construction on concrete foundation and base, with steel frame roof and steel sash.

Texas & Pacific.—This company is planning to construct shops at a different location to take the place of its machine shop and auxiliary buildings at Marshall, Tex., which were destroyed by fire on June 9 with an estimated loss of about $300,000.

Air-Raid Precautions on German Railroads.—Special precautions against air raids are now being taken on the German railways in those districts especially liable to aerial bombardments by the Allies. The Palatinate Railways, in particular, are adopting precautionary measures, and a writer in the Lokal-Anzeiger, who recently traveled on this system, describes the darkening methods adopted at night. For hours, he writes, the train traveled "as though in a dark cave, without lights, without conductors, without any station names being called out when the train stops. When every lamp is extinguished throughout the countryside, and the towns and villages, as though constrained by agony, have closed their shops, the journey oppresses one's mind and is nowise reassuring. One goes on in uncertainty, facing danger. Everywhere placards indicating 'how to behave during air raids,' show that one is in the aviator's territory. Slowly, very slowly, the train proceeds on its journey; in a river alongside the line one still sees the locomotive which, together with its train, plunged into the water on the occasion of a recent accident. A train with broken windows—not a pane has remained intact—passes near us; another train passes all blackened and half consumed with fire. And on arriving at the end of this dismal journey, the first question heard by the traveler is 'Will they come tonight?'"

Railway Financial News

BALTIMORE & OHIO.—See Pennsylvania.

COLORADO MIDLAND.—Judge J. W. Sheafor of Colorado Springs has appointed President A. E. Carlton receiver of this property and has ordered him to stop the operation of the road, after due notice, on or about August 5. The Denver News states that the rails and other materials which will be obtained from the junking of the Colorado Midland will be turned over to the government and sent to France for the construction of military roads. The Colorado Midland operating 338 miles of line was sold to A. E. Carlton and his associates in April, 1917, for $1,425,000.

ERIE.—The New Jersey Public Utility Commission has authorized this company to issue $12,500,000 of 20-year 6 per cent series B bonds, under its refunding and improvement mortgage dated December 1, 1916. The bonds must not be sold for less than 90 per cent of their face value and are to realize net proceeds of at least $11,250,000.

LOUISVILLE BRIDGE & TERMINAL COMPANY.—This company, which is a consolidation of the Pennsylvania Terminal Railway and the Louisville Bridge Company, has filed articles of incorporation in Louisville with a capital of $5,000,000.

PENNSYLVANIA.—Director General McAdoo has issued the following statement: "In some inexplainable way a report has gained circulation that the Pennsylvania Railroad and the Baltimore & Ohio Railroad have deferred their usual dividends because the contract between the government and the roads under federal control has not been signed. There is no basis for this report." Both of these roads, after the meetings of their boards of directors held in June, announced that the dividend declarations had been deferred until the meetings in July.

PITTSBURGH, CINCINNATI, CHICAGO & ST. LOUIS.—A semi-annual dividend of 2 per cent, payable July 25 to stock of record July 22, has been declared. This compares with the previous rate of 2½ per cent. In connection with the declaration of the reduced dividend, the board of directors authorized the following statement: "On June 26 the board deferred action on the semi-annual dividend because this company having commenced business on January 1, 1917, as the result of consolidations had no dividend record for the three years' test period. Therefore, in accordance with the Act of Congress, it applied for the approval of the government to the declaration of a 2½ per cent semi-annual dividend, the same as it paid in 1917. The company is advised that the government has no objection to the payment of a semi-annual dividend of 2 per cent. In view of this determination by the government, the directors have declared a 2 per cent semi-annual dividend."

SOUTHERN PACIFIC.—Paul Shoup of San Francisco has been elected a director to succeed William Sproule, resigned to become district director. W. B. Scott has resigned as a director, having been appointed federal manager of the Texas and Louisiana lines.

EXPORTS TO THE ARCTIC PORTS OF RUSSIA.—The total value of merchandise shipped from the United States to the Arctic frontage of Russia, Archangel and Kola, from the beginning of the war to date was in round terms $750,000,000, while the value of that going by way of her Pacific frontage, chiefly Vladivostok was $321,000,000. With this enormous quantity of merchandise from the United States alone, coupled with that from other parts of the world, the receipts of merchandise at the Arctic and Pacific frontages soon came to exceed the transporting capacity of the railways, and quantities of war material and military supplies accumulated at both frontages, some of which presumably still remain in the vicinity of the ports at which they were landed.—*Bulletin of the National City Bank of New York, July 9, 1918.*

Railway Officers

Executive, Financial, Legal and Accounting

T. H. Burgess, assistant general solicitor of the Erie, has been appointed general solicitor with headquarters at New York.

Howard Elliott, has been elected president of the Northern Pacific, succeeding **J. M. Hannaford,** who was recently appointed federal manager.

Morrison A. Waite, general attorney for Ohio and Indiana, of the Baltimore & Ohio, has been appointed general solicitor, western lines, with headquarters at Cincinnati, Ohio.

H. F. Scheiman, assistant treasurer of the Grand Rapids & Indiana, with headquarters at Grand Rapids, Mich., has been appointed treasurer, with office at Grand Rapids.

Henry H. Pease, secretary and treasurer of the Lehigh & New England, with headquarters at Philadelphia, Pa., has been appointed local treasurer, and **Leroy E. Reed** has been appointed attorney.

Morton C. Bradley, assistant controller of the Boston & Maine, with office at Boston, Mass., has been appointed assistant general auditor, and **John F. Turner,** general auditor, with office at Boston, has been appointed assistant general auditor.

Herbert R. Wheeler, assistant treasurer of the St. Johnsbury & Lake Champlain, has been appointed local treasurer of the St. Johnsbury & Lake Champlain, the Montpelier & Wells River, and the Barre & Chelsea, with office at North Station, Boston, Mass.

Julius Kruttschnitt, chairman of the executive committee of the Southern Pacific, with headquarters at New York, has been elected president, to succeed **William Sproule,** resigned to become district director. Mr. Kruttschnitt will also continue as chairman of the executive committee.

A. R. McNitt, freight claim agent of the Oregon Short Line, with office at Salt Lake City, Utah, has been appointed freight claim agent of the Union Pacific, with headquarters at Omaha, Neb., effective July 1, succeeding **W. H. Hancock,** who has been retired on a pension.

Albert J. Haynes, auditor of the Maine Central, with office at Portland, Me., has been appointed general auditor; **Frank W. York,** treasurer at Portland, has been appointed local treasurer, and **Charles H. Blatchford,** attorney at Portland, Me., has been appointed general solicitor.

E. A. Stockton, deputy controller of the Pennsylvania Railroad, at Philadelphia, Pa., has been appointed general auditor; **J. F. Fahnestock,** treasurer, at Philadelphia, has been appointed local treasurer and **W. A. Moncure,** assistant real estate agent, at Philadelphia, has been appointed real estate agent.

Eugene A. Wigren, assistant auditor of the Michigan Central, with headquarters at Detroit, Mich., has been appointed auditor of the Michigan Central, the Toronto, Hamilton & Buffalo Railway Company, the Toronto, Hamilton & Buffalo Navigation Company, and auditor and secretary of the Chicago, Kalamazoo & Saginaw, vice **Frank O. Waldo,** resigned.

C. B. Seger, acting chairman of the executive committee of the Union Pacific, with headquarters at New York, has been elected president of the Union Pacific and the Oregon Short Line, succeeding E. E. Calvin. Mr. Seger has been elected also president of the Oregon-Washington Railroad & Navigation Company to succeed J. D. Farrell. An appreciation of Mr. Seger and his photograph were published in the *Railway Age* of March 22, 1918, page 707.

W. E. Kay, assistant general counsel of the Atlantic Coast Line, at Jacksonville, Fla., has been appointed general solicitor—Georgia, Florida and Alabama, and **P. A. Willcox,** general counsel, at Wilmington, N. C., has been appointed

general solicitor—North Carolina and South Carolina; **H. C. Prince,** comptroller at Wilmington, has been appointed general auditor, and **J. T. Reid,** treasurer at Wilmington, has been appointed local treasurer of the Atlantic Coast line and the Winston- Salem Southbound.

Paul Shoup has been elected director of the Southern Pacific and also vice-president and assistant to the president, succeeding W. R. Scott, resigned. Mr. Shoup will have his headquarters in San Francisco, but will retain his position as president of the Pacific Electric Railway, the general office of which is at Los Angeles. He will be the executive representative of the Southern Pacific on the Pacific coast, but will have nothing to do with the operation of the railway under the United States Railroad Administration. He will succeed William Sproule in subsidiary corporations controlled by the Southern Pacific.

James Brown, chairman of the executive committee of the Bangor & Aroostook, with headquarters at New York, has been elected president of the company, to succeed **Percy R. Todd,** who resigned as president to become assistant to the district director of the United States Railroad Administration, for New England, and general manager of the Bangor & Aroostook. **Frank C. Wright,** vice-president of the Bangor & Aroostook, with office at Bangor, has resigned to become assistant director, Railroad Administration, Division of Operation, at Washington, D. C.; **H. J. Hart,** general counsel of the Bangor & Aroostook, has been appointed general solicitor, with headquarters at Bangor, and **W. F. Cram,** treasurer, has been appointed local treasurer, with office at Bangor.

R. R. Richards, auditor of disbursements of the Michigan Central and the Toronto, Hamilton & Buffalo Railway, with office at Detroit, Mich., has been appointed assistant auditor of both roads and the Toronto, Hamilton & Buffalo Navigation Company. **F. W. Sparling,** assistant auditor of disbursements of the Michigan Central, with office at Detroit, has been appointed auditor of disbursements of all the above roads. **H. J. Van Vleck,** assistant auditor of the Toronto, Hamilton & Buffalo, has been appointed assistant to auditor of the same road and the Toronto, Hamilton & Buffalo Navigation Company. **N. J. Hill,** assistant auditor of passenger accounts of the Michigan Central, with office at Detroit, Mich., has been appointed assistant auditor of disbursements, vice F. W. Sparling. **J. W. Piper,** general accountant, has been appointed assistant auditor of passenger accounts to succeed Mr. Hill.

Operating

C. E. Reynolds, car accountant of the Virginian Railway, with office at Norfolk, Va., has been assigned to other duties, and his former position has been abolished.

R. E. Marks has been appointed passenger trainmaster of the Grand Trunk, Eastern lines, with headquarters at Montreal, Que., vice **W. E. Weeger,** transferred.

W. J. Harahan, federal manager of the Seaboard Air Line, with headquarters at Norfolk, Va., has been appointed federal manager also of the Macon, Dublin & Savannah.

J. S. Cox, trainmaster of the Norfolk Southern, with office at Raleigh, N. C., has been appointed superintendent of the Western division, with headquarters at Raleigh, vice **C. W. Akers,** promoted.

W. M. Corbett, president of the Kansas City Terminal, with headquarters at Kansas City, Mo., has been appointed terminal manager, of the Kansas City terminal switching district, effective July 12.

F. A. Deverell, assistant general auditor of the Baltimore & Ohio, with office at Baltimore, Md., has been appointed assistant to federal manager (accounting), western lines, with headquarters at Cincinnati, Ohio.

F. F. Small has been appointed trainmaster of the Salt Lake division of the Southern Pacific, with headquarters at Mina, Nev., with jurisdiction over Mina sub-division, vice **G. H. Moore,** who has accepted service with the government.

C. M. Kittle, federal manager of the Illinois Ceneral and lines in central western and southern territory, has also been appointed federal manager for that portion of the line of the Louisiana Railway & Navigation Company east of the Mississippi river.

The appointment of **R. V. Taylor** as federal manager for the Gulf, Mobile & Northern, is canceled by reason of the fact that that property is not now under federal control. Mr. Taylor is federal manager of the Mobile & Ohio and the Southern Railway in Mississippi.

J. B. Stewart, general manager of the Bangor & Aroostook, with office at Bangor, Maine, has been appointed general superintendent of the Bangor & Aroostook and of the Van Buren Bridge Company, with the same duties for the present as he has hitherto performed as general manager.

A. S. Johnson, assistant general manager of the Terminal Railroad Association of St. Louis, has been appointed terminal manager of all lines within the switching limits of St. Louis, East St. Louis district, reporting to the regional director of the Southwestern region, effective July 9.

W. H. Newell, general superintendent of the Atlantic Coast Line, at Rocky Mount, N. C., has been appointed general superintendent also of the Winston-Salem Southbound, with office at Rocky Mount, N. C., to succeed W. H. Johnson, who has been appointed superintendent of the Winston-Salem Southbound with office at Winston-Salem.

J. F. Murphy, general manager of the Missouri Pacific, with headquarters at St. Louis, Mo., has been given the jurisdiction of the Chicago, Rock Island & Pacific line, from St. Louis, Mo. to Kansas City, in addition to the duties of general manager of the Missouri Pacific, as announced in the *Railway Age*, July 12. Mr. Murphy's headquarters are at St. Louis, Mo.

J. C. Johnson who has been appointed superintendent, of the Middle division, of the Pennsylvania Railroad, with office at Harrisburg, Pa., as has already been announced in these columns, was born on April 26, 1866, at Curtin, in Center county, Pa. He entered the service of the Pennsylvania Railroad on January 5, 1885, as a telegraph operator, on the Schuylkill division. In June, 1887, he was appointed train despatcher, of the Schuylkill division, and on January 1, 1903, was made assistant trainmaster of the same division. He was appointed division operator and assistant trainmaster, of the Schuylkill division, on November 16, 1905, remaining in that position until October 24, 1907, when he became chief clerk to the superintendent of telegraph, at Philadelphia. In January, 1910, he was appointed superintendent of telegraph, which position he held until his recent appointment as superintendent, of the Middle division, of the same road, with headquarters at Harrisburg, Pa., as above noted.

J. C. Johnson.

Mr. J. Lowell White, district superintendent of the Atlantic Coast Line at Norfolk, Va., has been appointed superintendent of transportation of the Winston-Salem Southbound Railway, and his authority as superintendent of transportation of the first division of the Atlantic Coast Line is extended over the line between Winston-Salem and Wadesboro; office at Rocky Mount, N. C.

F. J. Gavin, assistant general superintendent of the Great Northern, at Spokane, Wash., has been appointed general superintendent of the western district, with headquarters at Seattle, Wash., succeeding **J. H. O'Neill,** whose appointment as terminal manager of the Puget Sound terminals was announced in the *Railway Age* of July 12. **J. M. Doyle,**

superintendent of the Cascade division, with headquarters at Everett, Wash., has been appointed assistant general superintendent of the western district, with headquarters at Seattle, succeeding Mr. Gavin. **C. M. McDonough,** trainmaster at Whitefish, Mont., has been appointed superintendent of the Cascade division, succeeding Mr. Doyle.

T. F. Darden, assistant to president and assistant secretary of the Atlantic Coast Line, at Wilmington, N. C., has been appointed assistant to federal manager; **C. J. Chenworth,** assistant to vice-president, at Wilmington, has been appointed office assistant, and **Robert Scott,** superintendent of the insurance department at Wilmington, has been appointed superintendent of insurance and safety.

George Wallace Dailey, whose appointment as assistant general superintendent of the Chicago & North Western lines in Minnesota and Dakota, with headquarters at Huron, S. D., was announced in the *Railway Age*, on June 21, was born at South Milwaukee, Wis., on July 31, 1870. In the spring of 1888, Mr. Dailey learned telegraphy and entered the service of the North Western. In the latter part of the same year he worked for the Wisconsin Central, as a telegraph operator, remaining with that company until March 1, 1892, when he went to Texas where he was employed by the Gulf, Colorado & Santa Fe, in telegraph and train service work. In the latter part of 1892, he returned to the North Western, and subsequently for several years was telegraph operator, trainman and train despatcher on the Wisconsin division, and for two years was engaged in track elevation work on the same division. On May 1, 1899, Mr. Dailey was appointed chief train despatcher on the Northern Iowa division. Two years later he was promoted to trainmaster on the same division, and on June 30, 1902, was promoted to superintendent of the Iowa division, with headquarters at Boone, Iowa. The following year he was appointed superintendent of the telegraph department, with headquarters at Chicago, remaining there until December 1, 1908, when he was promoted to superintendent of the Wisconsin division, at Chicago, which position he held until his recent promotion.

G. W. Dailey

V. J. Bradley, assistant to vice-president of the Pennsylvania Railroad, with office at Philadelphia, Pa., has been appointed general supervisor of mail traffic; **R. H. Newbern,** superintendent, insurance department, has been appointed superintendent, insurance and safety, and **H. T. Wilkins,** assistant secretary, at Philadelphia, has been appointed special assistant to federal manager.

J. B. Fisher has been appointed transportation assistant, **J. T. Carroll,** mechanical assistant, and **E. B. Temple,** engineering assistant to **Charles H. Markham,** regional director of the Allegheny region, United States Railroad Administration. Mr. Fisher was superintendent of freight transportation, of the Pennsylvania Railroad, at Philadelphia; Mr. Carroll was assistant general superintendent of motive power, of the Baltimore & Ohio, at Baltimore, Md., and Mr. Temple was assistant chief engineer of the Pennsylvania at Philadelphia.

F. C. Dow, trainmaster of the Chicago, Milwaukee & St. Paul, at Tacoma, Wash., has been appointed acting superintendent, Coast Division, and Tacoma Eastern, with office at Tacoma, vice **Mott Sawyer** who has been granted leave of absence to enter military service. **A. O. Veitch,** trainmaster at Mobridge, S. D., has been appointed assistant superintendent, Missoula division, with office at Avery, Idaho, vice **T. J. Hamilton,** who has been granted leave of absence to enter military service, and **H. L. Wiltrout,** trainmaster at St. Maries, Idaho, has been appointed trainmaster, Coast division, and Tacoma Eastern, vice Mr. Dow.

S. U. Hooper, assistant division superintendent of the Baltimore & Ohio at Toledo, Ohio, has been appointed superintendent of transportation, western lines, with office at Cincinnati; **J. B. Carothers** has been appointed assistant to federal manager, with office at Cincinnati; **E. W. Scheer,** general superintendent at Cincinnati, O., has been appointed general superintendent of the Northwest district, with office at Cleveland; this district now includes the Chicago, Newark, New Castle and Cleveland divisions; **F. B. Mitchell,** general superintendent at Cincinnati, has been appointed general superintendent of the Southwest district, with office at Cincinnati; this district now includes the Ohio, Indiana, Illinois and Toledo divisions and the Dayton & Union Railroad.

C. H. Buford, trainmaster of the Chicago, Milwaukee & St. Paul, on the La Crosse division, with headquarters at Milwaukee, Wis., has been promoted to superintendent of the Wisconsin Valley division, with headquarters at Wausau, Wis., succeeding **H. H. Ober,** who has been transferred to the Iowa & Dakota division, with headquarters at Mason City, Iowa, in place of **E. G. Atkins,** deceased. **C. F. Holbrook** has been appointed trainmaster of the La Crosse division, succeeding Mr. Buford. **E. A. Meyer,** trainmaster of the Chicago & Milwaukee division, with headquarters at Chicago, has been appointed superintendent of the Southern Minnesota division, with headquarters at La Crosse, Wis., succeeding **M. J. Larson,** transferred to the Sioux City & Dakota division, with headquarters at Sioux City, Iowa, in place of **F. L. Richards,** assigned to other duties. **F. E. Devlin** has been appointed trainmaster of the Chicago & Milwaukee division, succeeding Mr. Meyer. The above changes were effective July 15.

Noel W. Smith whose appointment as general superintendent of the Eastern Pennsylvania division, of the Pennsylvania Railroad, with headquarters at Altoona, Pa., has already been announced in these columns, was born at Williamsport, on December 25, 1869, and was educated in the public schools of his native town. He entered the services of the Pennsylvania as a student in telegraphy at Williamsport, and then until September, 1889, was clerk in the division freight agent's office at the same place. The same year he left railway work, to enter Lehigh University, and after graduation from that university returned to the service of the Pennsylvania as a rodman on the Sunbury division in April, 1893. He was subsequently assistant supervisor, on the Baltimore division, of the Northern Central; Renovo and Williamsport divisions of the Erie division; Maryland division of the Philadelphia, Baltimore & Washington, and engaged on experimental track work for the chief engineer of maintenance of way at Harrisburg. In January, 1900, he was promoted to supervisor at Williamsport, and was then transferred in the same capacity, first to Middletown and then to Harrisburg, on the Philadelphia division. In December, 1905, he was made supervisor in the office of the principal assistant engineer at Altoona, and in May of the following year was promoted to assistant to the principal assistant engineer at Altoona. In April, 1907, he was made division engineer of the Middle division, and on January 15, 1910, was appointed superintendent of the Central division of the P. B. & W., from which position he was appointed superintendent of the Middle division, in June, 1913,

N. W. Smith.

and now becomes general superintendent of the Eastern Pennsylvania division, of the Pennsylvania Railroad, as above noted.

W. A. Baldwin, transportation assistant of the Erie, has been appointed general manager, with office at New York; **Jesse G. June,** superintendent of the Allegheny and Bradford division at Salamanca, N. Y., has been appointed superintendent of the Buffalo division, with office at Buffalo, vice **Enoch W. Underwood,** resigned; **Edward J. Edmunds,** superintendent of the Delaware and Jefferson division, at Susquehanna, Pa., succeeds Mr. June; **Joseph D. Rahaley,** trainmaster of the New York, Susquehanna & Western division, at Susquehanna, has been appointed superintendent of the Delaware and Jefferson division, with office at Susquehanna, Pa., vice Mr. Edmunds; **Arthur B. Caldwell,** trainmaster at Buffalo, N. Y., has been appointed superintendent of the Rochester division, with office at Rochester, vice **J. D. Cummin,** promoted to inspector of maintenance of way and construction for the federal manager.

Charles S. Krick, who has been appointed assistant general manager of the Pennsylvania Railroad, Eastern lines, with headquarters at Philadelphia, Pa., as has already been announced in these columns, was born on March 16, 1866, at Reading, Pa. He was educated in the public schools, also at the Carroll Institute, Reading, and in June, 1887, graduated from Lafayette College. The following month he entered the service of the Pennsylvania Railroad as rodman on the Schuylkill division, and later was transferred to Altoona. On December 14, 1890, he was appointed assistant supervisor of the Tyrone division, and in April, 1892, was transferred in the same capacity to the Philadelphia division, becoming acting supervisor about three years later at the Schuylkill division. He was promoted to supervisor in June, 1896, and was subsequently supervisor on the Middle division, and later on the Pittsburgh division. On January 1, 1903, he was made assistant engineer of the Eastern and Susquehanna divisions, and later was transferred to the Philadelphia Terminal division, becoming principal assistant engineer of the Philadelphia, Baltimore & Washington in January, 1906. In April of the following year he was made superintendent of the New York Terminal division, and on January 1, 1912, when the Hudson and New York Terminal divisions were combined to form the Manhattan division, he was appointed superintendent of that division at New York. In February, 1914, he was appointed superintendent of the Philadelphia Terminal division, with headquarters at West Philadelphia, Pa. In November, 1915, he was appointed acting general superintendent of the New Jersey division, and in May, 1916 was appointed general superintendent of the same division, with headquarters at New York, which position he held until his recent appointment as assistant general manager, of the Pennsylvania Railroad, Eastern lines, as above noted.

C. S. Krick.

E. H. Coapman, federal manager of the Southern Railway System, Georgia Southern & Florida, Alabama & Vicksburg, the Carolina, Clinchfield & Ohio and the Carolina Clinchfield & Ohio, of South Carolina, with headquarters at Washington, D. C., has been appointed federal manager also for the segregated line of the Baltimore & Ohio lying between Harrison, Va., and Lexington, Va.; the Ashville & Craggy Mountain; Ashville & Southern; Atlantic & Yadkin; Blue Ridge Railway; Carolina & Northwestern; Carolina & Tennessee Southern; Cincinnati, Burnside & Cumberland River; Cumberland Railway; Danville & Western; Ensley Southern, Harriman & Northeastern; Hartwell Railway; Hawkinsville & Florida Southern; High Point, Randleman, Asheboro & Southern; Lawrenceville Branch Railroad; Northern Alabama Railway; Roswell Railroad; Sievern & Knoxville; Tallulah Falls; Tennessee & Carolina Southern; Yadkin Railroad; and Louisiana & Mississippi Transfer (at Vicksburg, Miss.).

The Boston & Maine, including the York Harbor & Beach Railroad, the Montpelier & Wells River, the Barre & Chelsea, the St. Johnsbury & Lake Champlain, the Vermont Valley and the Sullivan County has been divided into two operating districts: **James D. Tyter,** general superintendent at Boston, Mass., has been appointed general superintendent of the First district, comprising the Portland, Southern, Fitchburg, Berkshire, W., N. & P. and Terminal divisions, with office at the North Station, Boston, Mass., and **Harley E. Folsom,** superintendent at Lyndonville, Vt., has been appointed general superintendent of the Second district, comprising the lines in Vermont and the C. & P. and White Mountains divisions, with office at Lyndonville. **Charles M. Woodward,** assistant superintendent, with office at Springfield, Mass., has been appointed superintendent of the Connecticut and Passumpsic division, South, with office at Springfield; **John A. Ahern,** assistant superintendent at Lyndonville, Vt., has been appointed superintendent of the Connecticut and Passumpsic division, North, with office at Lyndonville, and **Frederick C. Mayo,** secretary, treasurer and assistant superintendent of the St. Johnsbury & Lake Champlain, has been appointed superintendent of the St. J. & L. C., with office at St. Johnsbury.

Traffic

E. T. Campbell, traffic assistant of the Erie, has been appointed traffic manager, with headquarters at New York.

George S. Hobbs, second vice-president of the Maine Central, with office at Portland, Me., has been appointed traffic manager.

G. M. Houghton, passenger traffic manager of the Bangor & Aroostook, has been appointed general passenger agent, with headquarters at Bangor, Maine.

C. L. Thomas, freight traffic manager of the Baltimore & Ohio, at Cincinnati, Ohio, has been appointed traffic manager, western lines, with office at Cincinnati.

D. C. Boy has been appointed manager development service, of the Carolina, Clinchfield & Ohio and the Carolina, Clinchfield & Ohio of South Carolina, with headquarters at Johnson City, Tenn.

J. B. Cook, traveling agent on the Great Northern, at Billings, Mont., has been appointed supervisor of coal traffic for Montana and Northern Wyoming, under the Railroad Administration, with headquarters at Billings, Mont., effective July 12.

R. A. Brand, vice-president of the Atlantic Coast Line, at Wilmington, N. C., has been appointed traffic manager; **James Menzies** freight traffic manager at Wilmington, has been appointed assistant traffic manager—freight; **W. J. Craig,** passenger traffic manager at Wilmington, has been appointed assistant traffic manager—passenger. **J. W. Perrin,** assistant freight traffic manager, at Wilmington, has been appointed general freight agent.

Engineering and Rolling Stock

L. G. Curtis, assistant chief engineer of the Baltimore & Ohio, with office at Baltimore, Md., has been appointed chief engineer of the western lines, with office at Cincinnati, Ohio.

M. J. McCarthy, superintendent of motive power of the Baltimore & Ohio, with office at Cincinnati, Ohio, has been appointed superintendent maintenance of equipment, western lines, with office at Cincinnati.

J. B. Trenholm, engineer of roadway on the Atlantic Coast Line, has been appointed engineer of roadway of the Winston-Salem Southbound Railway, and his authority as engineer of roadway, first division of the Atlantic Coast Line, extended over the line between Winston-Salem and Wadesboro, with office at Rocky Mount, N. C.

E. J. Brennan, general master mechanic on the Baltimore & Ohio at Pittsburgh, Pa., has been appointed superintendent of motive power of the Chicago, Milwaukee & St. Paul lines east of Mobridge, with headquarters at Milwaukee, Wis., succeeding **W. Alexander,** who has resigned to enter the motor service department of the war department, effective July 10. **W. F. Walsh,** traveling mechanical expert for the Galena Signal Oil Company, with headquarters at Chicago, has been appointed assistant superintendent of motive power of the Southern district of the Chicago, Milwaukee & St. Paul, with headquarters at Dubuque, Iowa, succeeding **J. J. Connors,** resigned, effective July 10. **R. W. Anderson,** division master mechanic at Miles City, Mont., has been promoted to assistant superintendent of motive power of the middle district, with headquarters at Milwaukee Shops, Milwaukee, Wis., succeeding **A. N. Lucas,** who has been appointed shop superintendent, with jurisdiction over the locomotive department of the Milwaukee shops, effective June 15. **A. J. Vogler,** general foreman at the passenger terminal at Western avenue, Chicago, has been promoted to master mechanic of the Sioux City & Dakota division, with headquarters at Sioux City, Ia., succeeding **G. J. Messer,** who has been transferred to the Dubuque division, with headquarters at Dubuque, Iowa, in place of **George P. Kempf,** who has been appointed engineer of tests, with headquarters at Milwaukee, Wis., succeeding **H. K. Fox,** who has been appointed mechanical engineer, with headquarters at Chicago, in place of **C. H. Bilty,** who has resigned to enter the service of the government, as mechanical engineer on the staff of the regional director of Northwestern railroads, effective July 8.

Railway Officers in Government Service

H. B. Faroat, district passenger agent of the Baltimore & Ohio at Washington, D. C., has been assigned by the Railroad Administration to the War Industries Board, where he will conduct a railroad information bureau for the convenience of the board and its personnel.

G. W. Briece, car accountant of the Missouri Pacific at St. Louis, Mo., has been appointed Supervisor of Transportation, Southwestern region, effective July 1; **W. E. McGarry** has been appointed Supervisor Car Service, Southwestern region, effective July 1; both with headquarters at St. Louis.

Railway Officers in Military Service

J. M. Hammond, formerly assistant to the chief engineer of the Kansas City Terminal, has been commissioned captain in the construction division of the Quartermasters Corps and assigned to duty at Washington.

F. A. Delano, formerly president of the Wabash, and later of the Chicago, Indianapolis & Louisville, who has resigned as a member of the Federal Reserve Board, has been commissioned as major in the Engineer Officers' Reserve Corps, for service in France.

Purchasing

W. S. Galloway, assistant purchasing agent of the Baltimore & Ohio, with office at Baltimore, Md., has been appointed purchasing agent, western lines, with headquarters at Baltimore.

W. A. Starritt, purchasing agent of the Carolina, Clinchfield & Ohio and the Carolina, Clinchfield & Ohio of South Carolina, at Johnson City, Tenn., has been appointed local purchasing agent, with headquarters at Johnson City.

Robert Baker Pegram, who has been appointed general purchasing agent of the Southern Railway System, the Alabama & Vicksburg, the Georgia, Southern & Florida, the Carolina, Clinchfield & Ohio and the Carolina, Clinchfield & Ohio of South Carolina, with headquarters at Washington, D. C., as has already been announced in these columns, was born on August 22, 1874, at Marion, Ala., and was educated in private schools at Memphis, Tenn. In July, 1890, he began railway work with the Southern Railway. In 1895 and 1896 he was chief clerk of the Memphis Freight Bureau and later in 1896 served as chief clerk to the assistant general freight agent of the Illinois Central, at Memphis. In January, 1904, he was appointed soliciting freight agent of the Southern Railway and subsequently served as commercial agent at the same place, and later as chief clerk to the vice-president at St. Louis, Mo. In December, 1905, he was appointed assistant general freight agent at Nashville, Tenn., and in April, 1907, he was promoted to general freight agent at the same place, subsequently serving as general freight agent at Charleston, S. C. On May 1, 1910, he was appointed general agent, executive department, with office at Charleston, and since January, 1917, was executive general agent with office at Memphis until his recent appointment as general purchasing agent as has been noted.

Obituary

J. B. Wadleigh, local representative agency and public service, on the St. Louis Southwestern, with headquarters at Dallas, Tex., died in Los Angeles, Cal., on July 5, at the age of 73 years.

Daniel C. Corbin, who was president of the Spokane International until that road was purchased by the Canadian Pacific and the Minneapolis, St. Paul & Sault Ste. Marie in the latter part of 1916, died of pneumonia at Spokane, Wash., on June 29. Mr. Corbin was born in New Hampshire in 1837, and went west in 1862. In 1886 and 1887 he built the railroad connecting the Coeur d'Alene mines with the Northern Pacific, which he sold to that company in 1888. In the spring of 1889 he began the construction of the Spokane Falls & Northern, from Spokane, Wash., north 141 miles, to the international boundary, and the Nelson & Fort Shepard, an extension of the Spokane Falls & Northern, from the international boundary to Nelson, B. C., 60 miles, and sold both roads in 1898 to the Northern Pacific. In 1905 and 1906 he built the Spokane International from Spokane, Wash., to a connection with the Canadian Pacific at Kingsgate, B. C. Mr. Corbin was one of the pioneer railroad builders of the Spokane region. Besides the roads mentioned above, he built and operated other shorter lines in the mining districts of Idaho and Washington, and at the time of his death was president of the Eastern British Columbia, with office at Spokane, Wash.

Samuel G. Hatch, passenger traffic manager of the Illinois Central, with headquarters at Chicago, died suddenly in that city, on July 12. Mr. Hatch has been in the service of the Illinois Central passenger department, continuously, for 22 years. He was born at St. Louis, Mo., on March 22, 1865, and began railway work in 1880 as a clerk in the general passenger department of the St. Louis-Keokuk & Northwestern, now a part of the Chicago, Burlington & Quincy. Two years later he was promoted to ticket agent for that road and the Burlington at Keokuk, Iowa, remaining there until 1885. In November, 1888, he was made traveling passenger agent on the St. Louis, Arkansas & Texas, now the St. Louis-Southwestern. Later he was promoted to district passenger agent at Louisville, Ky., and then to chief in the general passenger department. In March, 1895, he was appointed district passenger and ticket agent on the Chesapeake, Ohio & Southwestern at Memphis, Tenn. The following year he was promoted to general passenger agent and in August, 1896, he entered the service of the Illinois Central as division passenger agent at Cincinnati, Ohio. He was promoted to assistant general passenger agent at Chicago, in April, 1900. In July, 1905, he was promoted to general passenger agent, and in February, 1911, to passenger traffic manager, which position he held at the time of his death as mentioned above.

S. G. Hatch.